

# Renewable Energy Strategy

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Schneider Electric

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

(optional)

Other (please specify)

Which other country? -open reply-(optional)

Global

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

First of all, the EU20/20/20 objectives are intrinsically linked; increasing energy efficiency, renewable energy and reducing carbon emissions are part of the same challenge, which is to fuel a new energy revolution where end-users should play a major role. It is very important to ensure the consistency of the regulatory framework related to the three areas – for instance, renewable energy must have an increasing part in our energy mix but not at the consumer's cost. The EU shall set longer-term targets for renewable energy together with a set of measures driving market growth and in conjunction with longer-term targets for carbon reduction and energy efficiency. The next step shall be 2030 in order to give more visibility to businesses.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

The deployment of smart grid is a must-do so to ensure infrastructures are ready to integrate the growing portion of renewable energy. The smart grid agenda shall be three-fold: 1) A stronger pan-European focus on the integration of renewable energy at micro-level (micro-grid deployments); 2) A much higher priority given to the integration of demand-side resources in energy markets through the

development of demand-response programmes in Europe; 3) A R&D policies which gives a higher priority to storage development for electricity, especially at local level. The EU shall also closely monitor the targets' achievement and ensure a level playing field for the renewable energy business across Europe. Also the EU shall look at rewarding technological solutions and projects aiming to increase liveability and the aesthetic quality of renewable energy infrastructure (such as solar rooftop).

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

What is important is to re-shift part of the direct financial support towards smart grid in order to: 1) Adapt our infrastructure (transmission & distribution) to the integration of renewable energy with a specific effort on the distribution side; 2) Promote technologies related to the integration of renewable energy in smart grids such as electric cars' development.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	
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B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	N/A
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	N/A
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)
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There are some major differences between sectors; however, the target has to be unique in order to be consistent with objectives related to the reduction of greenhouse gas emissions at EU level and enhanced energy efficiency.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other
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following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

- Solar industry in France : Investors often need 6 months to close all administrative procedures while the average is closer to 3 months or less in Germany. - Support schemes (Solar industry): There is a higher and more stable investment framework in Germany. In countries like France and Spain, the frequent and substantial changes with regard to supporting schemes have had several detrimental consequences on the solar industry. This is because of a critical factor: long-term visibility. - Technical specifications for the solar industry often differ from one country to another: If we want a strong European industry, national technical specifications must converge in order to improve competitiveness.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Cost-sharing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

One of the greatest challenges for the EU is to integrate the increasing share of renewable energy into the generation portfolio. According to the European Wind Energy Association, 34% of the electric supply could be supplied by renewable energy as soon as 2020. This requires a fundamental shift in the way energy markets are conceived as renewable energy is inherently intermittent and is not going to be a continuously available source of energy. This is not only a matter of market organisation but of technical barriers. It is very important to work on a EU framework which harmonises network codes, standardisation in this area. It is also important to review the role and contributions of private stakeholders and public authorities with the aim to accelerate smart grids developments and the upgrade of transmission & distribution grid.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Other (please specify)

Please specify which other rules -open reply-(optional)

The successful integration of demand-side resources into the market is one of the best ways to address this challenge. One of the greenest and most cost effective solutions is to pair Demand Response with renewable sources in order to make renewable more reliable without having to use carbon-based generation as a backup.

D.2.1. Please explain why -open reply-(optional)

It is important firstly to review technical capacities of the grid and secondly to give priority access to cost-efficient sources of energy (taking into account their carbon-footprint).

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

According to a study by Capgemini, VaasaETT and Enerdata (Demand Response: a decisive breakthrough for Europe, Capgemini, VaasaETT and Enerdata, June 2008), Demand Response alone could achieve 25-50% of the EU's 2020 targets concerning energy savings and CO2 emission reductions, as well as pre-empting the need for the equivalent of 150 medium size thermal plants in EU-15. But this requires the adoption of a clear political mandate at the EU level aiming to remove all the barriers which prevent the realization of this potentially effective energy market. Storage shall also play an important role in the long term although the technology is not mature today.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Energy efficiency technologies now on the market already reduce energy consumption significantly. In the building sector for example, intelligent “smart grid” management systems can enable consumers to visualise, monitor and organize their energy consumption, and lead to up to 30% permanent energy savings. These same “smart grid” management systems can also make short term reductions available for demand response programs adding another 10% to 20% to the permanent savings. To optimize building consumption in the context of overall grid requirements (during peak events, for example) we must link “energy efficiency” and DR technologies and programs. Energy users can then directly and immediately monetise the implementation of energy savings technologies on the market by having access to the grid. Commercial and Industrial sites and buildings must be a central part of any plan to increase Demand Response capacity as the upfront cost is very low. Consequently, we need European-wide market design improvements and measures to encourage Demand Response programs - factoring in energy efficiency objectives.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added -open reply-(optional)

A common framework in Europe, based on a shared vision by Member States about the need to agree on long-term targets and a set of harmonised measures defined at EU level.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

The electrical network of Central Europe is robust (due to high level of interconnection) and will require additional investment mainly to the integration of very large volumes of intermittent energy (ex off shore wind farms in the North Sea). The network around this part is weaker today and will require more attention because of the lack of interconnection

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

R&D on specific topics and business development in third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

2 additional measures : - Innovation roadmap to promote new technologies - Raw materials management (e.g. Lithium vs EV and grid storage development)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?  
-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Not successful

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

Yes certainly. Assistance shall also focus on technologies deployment in coordination with all stakeholders

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please

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include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	NGO
3. Please indicate your country -single choice reply-(optional)	Italy
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Tutti i Paesi dell'UE devono avere un obiettivo comune anche per ridurre tutti in modo uniforme le emissioni di gas serra e garantire la sicurezza degli approvvigionamenti. E' preferibile sostituire gli obiettivi separati "energia da fonti rinnovabili" e "risparmio energetico" con un obiettivo unico corrispondente al totale. Se uno Stato riuscisse a risparmiare di più potrebbe diminuire la produzione di energia da fonti rinnovabili, che presenta spesso inconvenienti e controindicazioni.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
Lo stanziamento di finanziamenti deve considerare non solo l'aspetto energetico ma anche tutti gli aspetti economici e paesaggistico - ambientali . Alcuni esempi: l'Italia ha notevoli entrate dal turismo: nessun turista apprezza paesaggi naturali deturpati da torri eoliche o centri storici i cui tetti siano coperti di pannelli solari. E ciò comporterebbe una perdita economica. Viceversa non danno problemi le torri ed i pannelli piazzati in ambiente industriale oppure, per i pannelli, su aree marginali (parcheggi, scarpate di strade ed autostrade, ecc.). Una torre eolica costruita a fianco di un casolare toscano ne fa perdere completamente il valore immobiliare, perché nessuno vorrebbe più vivere in tale luogo. La produzione agricola è incompatibile con i pannelli solari posizionati sui terreni: ciò è tanto più grave quando i pannelli vengono posizionati su terreni altamente produttivi. E' quasi impossibile inoltre che i terreni una volta terminato il ciclo di vita dei pannelli, possano essere recuperati all'agricoltura ricostruendone il giusto equilibrio biologico. Il taglio indiscriminato dei boschi per utilizzarli come biomasse provoca danni ambientali gravissimi difficilmente recuperabili se non con investimenti che si devono protrarre per decenni. Il teleriscaldamento e la cogenerazione devono essere confrontati seriamente con le altre tecniche disponibili. E così via.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables	For selected technologies/circumstances/markets (please specify)

post 2020 given their expected greater penetration? -single choice reply-(optional)

Please specify which technologies/circumstances/markets -open reply-(optional)

si, ma solo per il risparmio energetico e, in misura molto ridotta proporzionale al rendimento ed al loro impatto tecnico – economico – ambientale - paesistico ed al tipo di posizionamento, per i pannelli solari sui tetti (esclusi i centri storici) od altre tecniche poco invasive. Continuiamo con le osservazioni iniziate al punto A2: che cosa non va finanziato. L'utilizzo degli inceneritori (oltretutto finanziati!!!) non favorisce il recupero dei rifiuti, richiede la realizzazione di discariche, inquina l'aria e la terra circostante con diossine ed altri veleni, inquina le falde acquifere. Il bilancio preventivo dell'Unione Europea può prevedere stanziamenti, ma l'effettiva erogazione deve effettuarsi solo per i progetti (o tipologie di progetti) che superino una griglia di accettabilità. La metodologia di analisi tecnico - economico – ambientale deve essere impostata (od almeno approvata) a livello europeo (eventualmente differenziata per singolo Stato, se giustificate). A livello periferico, chi giudica se un progetto va finanziato ed autorizzato deve essere sufficientemente competente. Deve essere evitata l'erogazione dei fondi solo perché questi sono disponibili.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Accelerate convergence of national support schemes

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Gli Stati membri devono essere in grado di continuare a fornire limitati regimi di sostegno a livello nazionale soprattutto per eventuali nuove tecnologie emergenti che rispondano a tutti i requisiti di protezione paesaggistico ambientale; è inoltre opportuno che mantengano il controllo su chi beneficia di regimi nazionali

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

No, i regimi di sostegno non hanno un impatto significativo di distorsione della concorrenza Se i regimi di sostegno sono equivalenti in tutta l'UE la concorrenza non ne risente in modo significativo

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and

training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

La mancanza di analisi tecnico economico ambientali dei progetti, motivate e confrontate con soluzioni simili od alternative. Disponibilità di informazioni che permettano a chi rilascia le autorizzazioni di decidere con sicurezza. Un esempio per tutti: centralina sperimentale di teleriscaldamento a biomasse a San Colombano (Comune di Collio, provincia di Brescia, Lombardia, Italia) posta alla testata di una valle alpina. Avrebbero dovuto essere bruciate biomasse dei boschi limitrofi. Quattro anni fa il progetto, sperimentale, è stato finanziato dalla Regione Lombardia. Bruciati tutti gli scarti dei boschi circostanti, sembra che sia stata utilizzata legna trasportata con TIR dalla Siberia: ora i TIR trasporterebbero scarti di legno per mobili dalla Cina. Non risulterebbe pubblicato nessun rendiconto della sperimentazione. A 10 chilometri di distanza (Marmentino) è in costruzione una seconda centralina simile. La decisione del rilascio di autorizzazioni deve essere presa da personale qualificato.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

voci selezionate al punto D.1. ma meglio specificate: Regole di bilanciamento della produzione rispetto ai carichi di rete Regime di limitazione e interruzione dei carichi

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

Aumentare la disponibilità di risposta alla domanda (reti intelligenti ...) Accelerare lo sviluppo dell'infrastruttura e interconnessione alla rete. E' inutile costruire torri eoliche, con gli altissimi costi indotti in termini di turismo, paesaggio, ecc. se poi non vengono allacciate. Un'autorizzazione deve essere rilasciata solo quando anche la rete è autorizzata e realizzabile in concomitanza con l'impianto.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	N/A

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc.
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

l'efficienza energetica degli edifici e' la base per sviluppare il riscaldamento/ raffreddamento da fonti rinnovabili. Vanno incentivate tutte le attivita' per migliorare l'isolamento termico degli edifici Anche se il punto F3 non lo prevede, è opportuno evidenziare la necessità di ridurre l'uso dell'acqua potabile in tutte le attività non specificamente alimentari. Utile inoltre obbligare le aziende a depurare e riutilizzare l'acqua di scarico dei processi industriali.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Limits of availability of sustainably produced biofuels
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)

h1 i criteri di sostenibilità vanno mantenuti non solo per la produzione di biocarburanti, ma per tutto. I rifiuti non devono essere utilizzati per la produzione di energia elettrica e teleriscaldamento. Ad esempio quando viene rilasciata alla costruzione di un impianto a biomasse, deve essere provato che il combustibile viene prodotto nelle vicinanze, in modo accettabile in relazione alla produzione di

biomassa senza che venga depauperato ad esempio il bosco, che per le stesse aree di produzione di biomassa non vi siano altri impianti che concorrono al loro utilizzo

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to

2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

risposta alla domanda E! (che non permette di scrivere i necessari commenti) e i produttori di energia rinnovabile dovrebbero funzionare senza alcun aiuto o con aiuti comparabili con i risparmi globali. Un esempio (non del tutto calzante): pannelli fotovoltaici: se riescono a far risparmiare investimenti per costruire reti, potrebbero essere finanziati per tali importi. Se gli impianti comportano la costruzione di reti, sarebbe opportuno che queste venissero pagate dai produttori. Ogni impianto ha una durata di vita tecnico-economica. Si può ipotizzare che un impianto a pannelli solari presumibilmente abbia una durata di cinque anni, una torre eolica di dieci. Quando gli impianti hanno terminato il loro ciclo di vita, vanno demoliti e recuperati. Non è detto che il produttore esista ancora ed abbia capacità e volontà sufficienti per procedere alla demolizione. Serve un'organismo che assicuri la demolizione e la cui durata di vita sia elevata: perciò un organismo statale. Per finanziare tale demolizione sicura i produttori dovrebbero versare un contributo a questo organismo. Dopo che un impianto cessa di funzionare per un certo periodo, l'organismo dovrebbe poter procedere d'ufficio alla demolizione. Gli impianti dovrebbero essere costruiti con materiali riciclabili. Sembra che nessuno si sia curato di questo aspetto. Vanno finanziate le sperimentazioni indicate alla risposta b5.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Gli inconvenienti: in generale: non aver considerato nel rilascio delle autorizzazioni l'impatto paesaggistico ed ambientale. Se tali aspetti sono stati demandati ai singoli Stati, non sembra che in Italia quest'ultimo sia stato fino ad ora considerato. Perciò: mancato confronto tecnico – economico- ambientale – paesaggistico fra le varie fonti energetiche ed il risparmio energetico. In particolare: Torri eoliche e pannelli sui tetti dei centri storici: impatto visivo elevato, perdita di valore immobiliare delle proprietà nei dintorni, danni al turismo. Pannelli fotovoltaici sui terreni agricoli: perdita di produzione agricola (oltre all'impatto visivo). Terreni siffatti non saranno più recuperati per le produzioni agricole. Uso di biomasse dai boschi: rischio di depauperamento dei boschi stessi. Uso di biomasse da rifiuti: minore riciclaggio dei rifiuti, necessità di creazione di discariche, immissione di composti chimici dannosi nell'aria e nell'acqua. In generale: mancato confronto tecnico – economico- ambientale – paesaggistico fra le varie fonti energetiche ed il risparmio energetico.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

European Federation of Energy Traders (EFET) (Contact person: Maria Popova, M.Popova@efet.org)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Netherlands

<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
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## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>Yes, a mandatory target at EU level is appropriate</p>
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

A mandatory target at EU level for 2030, together with the EU ETS and reliance on market-based support mechanisms, would be more in line with the internal market for energy. Alignment is crucial in order to avoid distortions, particularly in the single electricity market at the wholesale level. Furthermore, an EU-wide renewable energies (RES) goal will provide continuing certainty to investors and will stimulate investments in renewable energy projects and related infrastructure. Finally, an EU target complemented by the potential for cross-border transfers of instruments evidencing a renewable source would ensure coherence of renewable energies financial support schemes with the EU ETS and with EU-wide energy efficiency standards. Sectoral targets would undermine the search function of the market, since not the most efficient renewable solutions overall would be chosen, but only the solutions within the sector. With a longer term perspective, renewable energy should be fully integrated in a competitive energy market. The policy instrument to achieve the EU-wide renewable target should primarily be the EU ETS. Reliance on a single instrument would improve the chances that CO2 prices would be sufficient in order to trigger investments in renewable energy sources.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

A mandatory European targets should therefore be supported by market-based European schemes in support of renewable generation (preferably based on existing instruments, such as EU ETS). In addition to this, certain less mature technologies could be the subject of additional support, focused on R&D and aimed at bringing down production costs. Existing national promotion schemes should be phased out, but without affecting existing investments in renewable energies, i.e. no retroactive changes. With respect to other facilitation policies, EFET advocates improving the rules on priority access. We agree that renewable energy producers must be assured of access to the grid, in the form of connection and the same rights to dispatch as other generation plants. However, this does not prevent creating incentives for them to contribute to the liquidity of wholesale markets or the management of congestion and imbalances, as is the case for other generation technologies. Renewable energy generators should, therefore, be required to dispatch themselves, to make nominations and to offer terms to the transmission system operator to deviate from the nominated amount. In practice, this would mean that renewable generators would be able to reduce output based on requests from the transmission system operator (TSO) and provided that compensation is paid.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

The overall goal of RES support should be to incentivise investments, while facilitating cost reductions and cost-efficient deployment of RES technologies. Further cost reduction will help to reduce the need for additional financial support. Encouraging Member States to

exploit the most suitable potential sources in each country through an EU-wide support scheme complementing the EU consumption target would help to drive down the total cost of a large-scale switch to renewable sources. Such cost alleviation should, in turn, help national governments to phase out the budgetary burden of RES support schemes sooner. Depending on the development of power market prices, onshore wind may continue its cost reduction path and may be able to reach grid parity in wind-rich sites. Economies of scale, e.g. by larger project size that allows efficient construction, operation and maintenance, will support this. The same may well apply to solar technologies in advantageous locations as costs continue to decrease. Different biomass technologies also have the potential to become economic at relatively low ETS prices. A renewable energies support scheme based on trading mechanisms will certainly help to find the most economically efficient solution and thus, will also help to reach sustainable development and implementation of renewable energy technologies. Some immature RES technologies might still need research incentives, but this should be treated separately from deployment.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

It is crucial for support mechanisms to incentivise lower costs as the 2050 roadmap expects energy costs as a percentage of GDP to increase from 10.5% to 14.6%. Investment has to be delivered efficiently to retain EU citizens support at these levels. Policies and the respective support schemes should aim to drive RES costs down and fully integrating RES electricity into the wholesale energy market across Europe. This can easily be done, if the most competitive RES technologies are located at the best sites through a European approach, assisted by a unitary quota and a certificate-based system. In order to exploit their flexibility potential, price signals should be introduced also in feed-in-tariff (FIT) systems. Incentives for developers to control costs are eroded by the prospect of guaranteed support levels. RES producers should also be responsible for selling their power to the market. This implies a transition from FIT to a modular system consisting of market price and a RES add-on. RES producers should also take an active role in ancillary services: complying with balancing rules and bearing full responsibility for deviations from forecast power production, like other generators. This would give RES producers the incentive to make their schedules and forecasts as accurate as possible. Gate-closure should be close to real time (H-1), so that renewable producers can update their positions as more information becomes available.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply- (optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Harmonised support schemes are necessary to deliver a level-playing field for investment in renewable energy production, to deploy renewable energies cost-efficiently and to preserve the European internal electricity market. Convergence of support schemes means developing RES in the most efficient way and at the least cost for customers. A support system based on tradable green quotas is the most suitable approach. Furthermore, it is of paramount importance to ensure that RES producers are properly integrated in the market and responsible for selling their own power. In order to support and work toward a common and harmonised EU RES market, the European Commission and responsible bodies could develop standards or best practice requirements for each type of support scheme existing within Europe. The Guidelines on State Aid for Environmental Protection would be an ideal vehicle for this. However there should

be no retroactive changes, as investments have already been made, and the expected levels and methods of support should be maintained. Cross-border projects and a related trade in Guarantees of Origins can be a very efficient way of reaching the RES targets. Pilot projects to develop such mechanisms should be initiated as soon as possible.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

In order to allocate the financial resources in an efficient manner, it is crucial to enlarge the market to all RES applications and to avoid focussing on sectoral solutions. To deploy RES across the EU in the most cost-efficient way, a cross-sector fulfilment of targets is needed. For example, RES-heat solutions in one country might be a cheaper substitute to the use of RES-electricity, which is preferred in another country. Likewise, most scenarios anticipate wider use of electricity in both the heat and the transport sectors. Using different targets and policy instruments is likely to create perverse incentives and arbitrage opportunities that will make RES policy less efficient. The EU ETS is an excellent example, how market instruments can be designed in order to look for an economy-wide solution.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

A convergence of support schemes could be achieved by a higher level of coordination between national systems in terms of design of support mechanisms, e.g. through improved guidelines for Member States. This would allow RES to be traded across borders and separated from physical power. As long as Member States have their own support schemes, it should be possible for those with low geographical resources to contribute to the European target by financially supporting RES development in other countries through the use of cooperation mechanisms. At the same time, in a harmonised European system with tradable quotas for RES there will be no need for compensation as all energy suppliers will be subject to the same requirements regarding the RES-share in their portfolios. Harmonisation is a precondition for developing new technologies in a real internal market. In particular, offshore wind, with its ability to deliver from its production site into several countries, would develop in a sustainable manner through a harmonised approach. Non-harmonised solutions will lead to 'cherry picking'. Similarly, including third countries will provide further opportunities to deploy RES in a more efficient way. Cross-border competition is an indispensable element to realising third-country projects, which will promote further growth and optimise cost-efficiency.

Please explain how it could be achieved for third countries -open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Most existing support schemes have explicit or implicit trade barriers which distort competition. The direct effect on competition depends on the design of the support scheme, e.g. arrangements for grid access or dispatch. Generally, feed in tariffs are more distorting because they exclude RES-E from the power market and therefore, limit liquidity and competition in power markets. Priority dispatch arrangements worsen this effect as they constrain transmission companies in making available cross-border interconnection capacity. At present, we see various structures, e.g. in funding schemes for financial support systems, ranging from tax-funded systems to tax relieves and to levies on fossil fuels or power. Inevitably, such varieties will create distortions, impede competition between renewable energies and between producers, and create barriers for cross-border trade and competition. In general, this will make it difficult to continue to promote renewable energies by means of financial support schemes in the long run.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to

Length and complexity of administrative procedures relating to

administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of credible and certified training and qualification
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

In general, the trading business would benefit if the same rules are applicable EU-wide, e.g. to implement trading in certain countries sometimes needs extra licenses. But this is a general problem, which is not confined only to existing and/or future RES trading.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Balancing rules
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

To integrate renewable electricity in the grid, especially with a high share in the total electricity mix, it is essential that renewable producers have the same responsibilities as other market participants with respect to grid stability. In order to keep the grid stable and to pave the way for an increasing share of renewable energies in the electricity mix beyond 2020, RES-E producers must follow the existing balancing regimes. This requires system operators to allow all market participants to trade until gate closure at H-1. This will permit RES producers, particularly wind and solar producers, to revise nominations, and to trade out emerging imbalances, as new information becomes available.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	None of the above
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D.2.1. Please explain why -open reply-(optional)

As renewable power generation facilities become a more and more substantial part of the generation market and effectively rely on increasingly mature technology, grid-related rules should be applied to all generation sources in a non-discriminatory way. Otherwise, the wholesale market will face increasing levels of distortion. In our point of view renewable energy should be integrated in the wholesale market and compete with conventional energy in the long run. The obligation on network operators to develop the network and to provide access should be guaranteed for all generation.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs - Other (please specify)
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Please specify which other measures -open reply-(optional)

An energy-only market (enhanced by a reserve capacity market) assures a match between supply and demand, even with higher shares

of renewable energy. Wholesale energy prices are then the primary incentive for investments. Capacity mechanisms should be considered on a case-by-case basis only as a transitory measure, rather than a long-term feature of the European electricity market design. A widespread adoption of such mechanisms risks interfering with the EU target model, which emphasises the role of cross-border exchange of electricity. RES itself may offer some flexibility by integrating it into the wholesale market. Flexible conventional generation and storage possibilities will be incentivised by the following improvements: Removal of explicit and implicit caps and floors on prices in wholesale spot and balancing markets; Shifting intraday gate closure to H-1 in all Member States and facilitating access to intraday markets, especially on a cross-border basis; Extending real-time metering and incentivising demand response: increasing the proportion of demand subject to real-time metering should be a strategic objective for the EU. Market design must be based on competitive elements. Prices should be driven by supply/demand fundamentals that signal the need for demand response, generation optimisation, and investment in storages. This need not mean more volatile prices for end users, if appropriate tariff structures which can be hedged in wholesale markets are chosen

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Price risk – producers of renewable energy should operate without any aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

E.1. In order to make renewable production more responsive to market signals, it is essential that renewable production faces market mechanisms so that their operations are steered by the spot market prices. To give RES incentives to contribute to system stability, they also need the signals from the balancing market. This means that RES support mechanisms should be redesigned to be based on 'market price + premium' mechanisms or investment aid. Such an approach should be embodied in future Directives or in the Guidelines for State Aid for Environmental protection. In the long term, no additional renewable subsidies should be needed (perhaps there is a phase where the EU ETS prices will provide some additional incentive for renewable plants), since renewable technologies are becoming more mature and hence, more competitive. None of this would add to the costs of promoting renewable energy. Under FIT schemes, these risks are simply transferred to system operators and ultimately to customers. Balancing risk: Balancing concepts for RES should be left to the market and not be allocated in a mandatory way to one specific party. The market itself will establish solutions in which capacity might be bundled by a market party and offered as a balancing service.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Competitive markets deliver the most efficient solutions. The market itself will establish solutions in which capacity might be bundled by a market party and offered to TSOs as a balancing service. Demand Response requires solutions within a competitive framework. Current arrangements in some Member States are not sufficient. Encouraging flexibility requires price signals in spot markets that reflect the supply-demand situation. Therefore, Member States must remove explicit and implicit caps and floors on prices in wholesale spot and balancing markets. Increasing the scope of SMART metering will also help this process. Introducing mechanisms to reward availability will dampen price signals and impede this process, also in order to make existing generation more flexible. See EFET position paper:

<http://efet.org/GetFile.aspx?File=5791>. With respect to network issues, grid tariffs which correctly reflect the constraints on the distribution system are needed to allow suppliers/ESCOs to develop offers reflecting better this cost in customer's products and services. The tariffs would relate to the actual/predicted grid usage at given time periods or dynamically. Direct contracts between DSOs and households are not attractive due to complexity and inconvenience for customers to have an interface with both the distribution and the retail company. The interaction between DSOs and customers must be facilitated through a market mechanism, i.e. unbundled retail supply businesses.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient

No (please specify how they should be amended or which elements added)

to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

Please specify how they should be amended or which elements added  
-open reply-(optional)

Cooperation mechanisms are a first step. They must be accompanied by arrangements for the mutual recognition of transfers of internationally compatible (even if nationally issued) renewable production certificates and to set up a secure registry system. A next step could be harmonising and later merging of existing national schemes for the issuance and redemption of renewable energy-related certificates, whether based on voluntary underwriting and purchase of GoOs, or on obligatory certificated supply quotas.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation should focus on geographical potential and the resulting efficiency gains. Hence, it is natural that neighbouring countries should be included in the development of renewable energy where there is massive potential.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

No, but investments shall be considered in future planning of grid extension.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

Both bilateral agreements between Member States and third countries, and agreements between the EU and third countries.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Renewable energy imports should be allowed to contribute to the fulfilment of the EU targets.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

The NSCOGI is an interesting and promising initiative, but it should also include investors. The main benefit would be a more efficient offshore grid extension (e.g. to neighbouring country when grid connection is shorter that way).

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a

cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

To make the further development of RES sustainable, it is key that non-mature technologies are promoted and not rolled-out to the market before they are competitive or close to competitiveness. Many subsidy schemes in various European countries, however, are a mix of development and deployment. Hence, a clearer distinction between research and roll-out should be made.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

International Union of Property Owners, office@uipi.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>No, targets for renewable energy sources are unnecessary</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>In general we are not in favour of binding targets that in our opinion can be very restrictive, so we do not wish to support further mandatory target at EU level. Regarding sectoral targets, in the building sector in particular, we consider that obligations and targets relating to renewable could add additional burden. In any case we do not think that such obligations and targets should be the target of this strategy, as the issue of renewable energy sources in buildings and related requirements are already addressed in the Recast Energy Performance of Buildings Directive. The strategy should in this sector acknowledge existing obligations (Article 13.4 of the Renewable Energy Directive from 2009 and the 2010 Recast Energy Performance of Buildings Directive) and concentrate on promoting other policy elements, notably financing possibilities and facilitations policies which are crucial in the real estate sector to promote the uptake of renewable energy technologies. Financial incentives (ranging from grants, tax rebate VAT reduction, preferential loan) have proven to be effective in this sector in the past. Feed-in tariffs that ensure reasonable period for return on investments can also contribute to a large and rapid development of renewable energy sources at the building level for commercial, office but and residential buildings. Reducing red- tape and simplifying access to permit and authorisation in this sector would also be useful to foster the uptake of renewables.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities</p>
<p><b>B. FINANCIAL SUPPORT</b></p>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>Yes</p>
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>Support post-2020 are required to promote the uptake of renewables. A wider and better targeted support at building owners would considerably promote the uptake of renewables in this sector and directly in relation to develop renewable energy sources close to the end-users.</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with benchmark values for support level per technology per Member State</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>N/A</p>
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity,</p>	

heating and cooling, transport). -open reply-(optional)

As already mentioned under A.1.1, we consider that one of the sector

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

N/A

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of information on support schemes or other - Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

The UIPI has always stressed that complex administrative procedure to access authorisation and permit for the installation of renewable energy sources can be a real obstacle to the uptake of renewables at the building level. On top of that, the complexity of tenancy law is also a barrier to the wider spread of renewables even if it is often ignored (e.g. possibility for tenants to object improvement to avoid disruption, installation of renewable energy technologies that do not fall in the list of modernisations that justify rent increase as in Germany, etc.) The lack of knowledge about existing support schemes and funding opportunities is often mentioned as one of the reasons why our members do not opt for renewable energy sources. So improvement in that respect would surely be positive.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

The approach of the current Directive to lay down a general framework for Member State action is fine

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

Costs is and would remain the main barrier against a stronger uptake of renewable energy in our sector for individual building's renewable energy for heating, cooling and electricity. This uptake needs to be technically feasible and cost-effective from an investor point of view and one should try to overcome cost barriers with financial incentives, feed-in tariffs and other measures that ensure a relatively short period of return on investments. This is particularly significant in the building sector for landlords who do not get any direct benefits of the improvements made. It is also important to note that costs to be taken into consideration include installation, maintenance and replacement costs. We have noticed that building owners are reluctant to install technologies generating renewable energy because they are reputed to require higher maintenance effort than traditional systems. The lack of qualified and trained installers is also a critical issue in relation to maintenance and installation: The lack of capacity means lack of trust and willingness from the consumer side and a less competitive installation and maintenance market (so higher costs). As we mentioned in C.1.1., building regulation, authorization and permit application procedure (together with related fees) need to be simplified to foster the uptake of these technologies at the building level. Simplification of tenancy rules could also at be suggested (tenancy law not been an EU competence).

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

At the building level, interaction are already obvious. The definition of nearly zero energy buildings in the Recast Energy Performance of Buildings Directive define these buildings as constructions that have "a very high energy performance" and that energy they require should come "to a very significant extent" from renewable energy sources (art. 2). This definition implies therefore both a decreased energy use in buildings whilst also bringing about a renewable energy requirement: "The nearly zero or very low amount of energy required should to a very significant extent be covered by energy from renewable source, including renewable energy produced on-site or nearby". As for existing buildings, according to the Recast EPBD, minimum requirements are to be set for building elements to achieve

cost-optimal level; and renewable energy sources are encouraged. Article 13.4 of the Renewable Energy Directive 2009 also targets buildings 4. Member States shall introduce in their building regulations and codes appropriate measures in order to increase the share of all kinds of energy from renewable sources in the building sector by taking into account national measures relating to substantial increases in energy efficiency relating to cogeneration and to passive, low or zero-energy buildings. Interaction and obligations are therefore already in place in this sector and there is no need at present for further legislative developments.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the

Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

Patrick Clerens, EPPSA - European Power Plant Suppliers Association,  
p.clerens@eppsa.eu

-open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
There is no need for only RES targets, but there is a need for binding GHG emission reduction targets. EPPSA believes that all low carbon technologies (RES but also CCS, etc.) are able to contribute to these targets. These broader targets would also support a larger industrial activity, since we are still technology leaders regarding RES and CCS-Technologies. These targets are also necessary to keep and develop the know-how through the creation of green jobs, boost European export and retaining skilled workers in the EU. These clear binding post 2020 targets should not only address 2050 but also intermediate targets e.g. 2030 and 2040 in order to give a clear signal towards all EU sectors that there will be binding targets and allow them to prepare for these early enough.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
It is necessary to define a coherent policy framework pushing for the development and implementation of all low carbon technologies that enable the development of a long-term European technology-neutral framework for GHG reduction.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
A balanced energy mix is needed in Europe in order to meet as well security of supply and affordable electricity prices. Therefore it would make sense to support RES and other low carbon technologies as long as they are not providing electricity at market price levels. Once these levels are reached, it would make sense to phase-out these support schemes since they would only distort the level playing field between the technologies.	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a	Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

cost-effective deployment? -multiple choices reply-

(optional)

Please specify how to make support schemes more market-oriented -open reply-(optional)

RES will have to compete with other low carbon technologies in the market and a market oriented support would take this in consideration. Subsidies to help these technologies to get to the market are helpful, but subsidies for mature technologies, as e.g. onshore wind and PV, should be phased out.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

subsidies for mature technologies, as e.g. onshore wind and PV, should be phased out.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, all support schemes distort competition to a similar extent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Erection and permitting procedures should be aligned. Low carbon energy sources are strategic European assets which have a significant added value to the overall low carbon energy supply and economy. Therefore, an alignment with the European Energy Infrastructure Package permitting procedures must be, from the administrative point of view, supported, which would allow to have a maximum period for the permitting defined. Therefore, the permitting procedure identified for Trans-European Networks should also be applied to low carbon infrastructure, independent of the energy technology used.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Increased availability of storage

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs -  
Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

It is difficult to conceive that the responsible for the intermittency can put the balancing risk and cost on the whole system. As long as the system could cope with the balancing, this was acceptable. But when the system suffers from the intermittency and if enough balancing possibilities exist (e.g. storage or direct links to back-up power), then RES must organise the balancing. Therefore the operator of the intermittent energy source must be responsible for the balancing.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

Conventional power generation is key to balance the system and therefore to create a framework coping with RES. Therefore operators must be compensated for keeping backup power sources in the market.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

Electrification of renewable heating and cooling makes only sense if one cannot use the electricity otherwise. If it is used to heat or cool, it should be done in a district heating or cooling network.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with third countries should be promoted, as long as dispatchable renewable energy sources are concerned. It makes less sense to increase the volatility in the European grid by including more intermittent power generation sources.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

This is necessary when supporting the import of dispatchable RES

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Priority should be given to European RES, but the potential of non-European ones should be addressed as long as it delivers dispatchable energy to Europe

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely

Technology performance and cost-competitiveness - System

<p>wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?</p> <p>-multiple choices reply-(optional)</p>	<p>integration - Industrial manufacturing and supply chain - Other (please specify)</p>
<p>Please specify which other key challenges</p> <p>-open reply-(optional)</p>	
<p>EPPSA supports all of the above-mentioned. But, it is crucial that it also addresses all other key enabling technologies, as defined in the SET Plan (e.g. Advanced fossil power generation or CCS).</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>IPR: Stronger measures to protect Intellectual Property Rights should be taken as companies will only invest in new technologies if they are sure to get a reasonable return on their investment. Research, development and demonstration are key to the European competitiveness and necessary to remain technology leader in order to develop and export the next generation of low carbon technologies.</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?</p> <p>-open reply-(optional)</p>	
<p>Advanced Fossil Power Generation: As fossil fuels will remain an important contributor to the EU energy mix, it is mandatory to have these technologies as efficient as possible and as flexible as required by the system. Therefore efficient conventional power generation, as identified by the SET plan, is a key research topic for the next years, also on the material side.</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)</p>	<p>Successful but some drawbacks (please specify which)</p>
<p>Please specify which drawbacks -open reply-(optional)</p>	
<p>Huge Renewable penetration and very positive prospective for the next years are a clear success. But the European electricity system is getting fragile. The strong investment in the RES, without a holistic approach regarding back-up power or grid interconnection are clear drawbacks.</p>	
<p>J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?</p> <p>-open reply-(optional)</p>	
<p>No. The SET Plan developed a clear roadmap for the technology development which therefore must be supported. As new technologies bear always an inherent risk in the time frame of their development, such a defined deadline would be counter productive since it would put an extra risk on the investors.</p>	

<h2>IDENTIFICATION</h2>	
<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes</p>	<p>Julie Kjestrup, Danfoss Heating Solutions and District Energy, julie.kjestrup@danfoss.com</p>

for use only if we need clarification about your responses. -open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Denmark
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	Yes, the establishment of post-2020 targets for renewable energy in the EU would serve a useful purpose. Though the transition to a point at which RES will outperform conventional alternatives irrespective of government intervention is clearly underway, it will take time and will certainly not be completed by 2020. In the meantime, public policy, notably in the form of binding targets, can make a vital contribution by providing businesses and private citizens with a stable regulatory framework and the confidence and vision which are needed to encourage investment in this area. In the absence of a long-term regulatory strategy, fears of stranded investments would certainly inhibit the development of RES in Europe as well as the ability of EU-based companies in the green energy field to compete successfully in the global green marketplace. Provided they include a suitable degree of flexibility and recognition of the specific characteristics of each national energy model, sectoral targets should also be considered. Such objectives can have the effect of stimulating the exploration of development of RES in sectors in which they have traditionally played a marginal role, and ensure that the market develops the most cost-efficient solutions. As an example, the heating and cooling sector has received comparatively little attention in recent years, yet current discussions linked to the proposed energy efficiency Directive are encouraging to give fresh consideration to the issue.
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

It may be possible that for some sectors/circumstances and markets, support is still necessary. Assuming however, that the current set of legislative measures (such as RES, EPBD, ErP Lots 1,2,10,11, EED) is properly and swiftly implemented in Member States and that, by and far, a level playing field for subsidies is achieved, RES technologies, also for heating and cooling, should see strong growth in the next six years. This in turn should lead to markets that will mature quickly and become more cost competitive, so that over time, all subsidies can be phased out. To ensure this happens, we would suggest that rather than looking at the potential need for subsidies post-2020, we should instead focus on jump-starting the currently existing market of energy-efficient technologies by providing action and financing now.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Successful support schemes follow a set target, are transparent, easy to administer, long term and budget independent. They need to be adjustable to changing circumstances. If the target, such as cost competitiveness, a certain efficiency etc. is met, it must be possible to stop them - until then, a gradual phase out should be foreseen to guide the markets into independence. In the meantime, it is important to create a level playing field so that the uptake of RES technologies is based on the appropriateness for the given area/project, rather than a price artificially lowered through subsidies

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with benchmark values for support level per technology per Member State

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

In light of the considerable variation in the capacity of different MS's energy models and in their capacity to provide financial support for RES, it might be impractical and even counter-productive to pursue total EU-wide harmonisation in this area. However, benchmark values on support for various technologies could prove useful, provided any such recommendations were based on a transparent process of reflection underpinned by a clear and robust methodology. The move towards a harmonised EU approach to financial support for RES, while appealing for obvious reasons, is not without risk. One significant danger is that the agreed approach ends up being the lowest common denominator. Another is that MS perceive an excessive degree of EU influence in an area over which they remain anxious to preserve their sovereignty. This debate over the broader question of subsidiarity could potentially "contaminate" the discussion on RES financing, ultimately leading to a less progressive result than would be the case if MS were free to define their own approach. A more practical and effective role for the EU could be to serve as a platform for the exchange of ideas and experiences in the area of RES financing. This would be particularly relevant in the case of heating and cooling sectors, in which the integration of renewables has a significant "local" dimension. Decisions such as which areas should be serviced by district heating and cooling networks and which are better suited to heat

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of

a rising share of renewables? -multiple choices reply-

(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-

(optional)

Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

- Administrative procedures In the ideal case, administrative procedures are swift and timely. In the case of heat pumps , in particular administrative procedures to obtain a drilling permit is often less dependent on scientific knowledge, but depends on local and regional traditions. This makes planning complicated, planning success uncertain and the whole procedure costly. Procedures should be aligned.

- Lack of commonly agreed technical specifications Contrary to the aim of the different pieces of legislation being applicable in one European market, Member States are starting to set up additional requirements, often on efficiency and quality. Examples are France and the UK: NF PAC (France) and MCS (UK) are by and large not compatible and require additional testing and administrative steps from manufacturers to become eligible for support. This in turn makes it difficult to operate cost-effectively across Europe, and in the end, means more expensive products for consumers.

- Lack of information on support schemes or other It is clear that whilst information on support schemes for RES is available, for many consumers it is perceived to be difficult to 1) find and 2) comprehend. The sector would benefit from e.g. a 'one-stop-shop' where you could obtain more information for your particular region or country. This could be EU-lead with links to national information.

- Lack of credible and certified training and qualification

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

One specific challenge for RES in the heating and cooling market is that many of the necessary decisions (home renovation, investment in new equipment/technology, etc.) need to be taken by individual consumers rather than by large actors such as utility companies. These individual end-users often suffer from a lack of clear and credible information on which to base their choices. They may also face cash-flow challenges which prevent them from making a large upfront investment, even if they can see that these costs would eventually be recovered. Public policy can help address these problems by providing consumers with objective, high-quality information on the options available to them and by facilitating access to finance, ideally at highly competitive rates of interest in order to bring pay-back periods more in line with the planning horizon of a typical household.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

There is no doubt that all of the renewable energy sources defined in the 2009/28/EC, thus hydrothermal and aerothermal energy, included, technologies will contribute to the further integration of RES in the heating and cooling markets. However, rather than focus on picking winning sub-sectors within the broader field of renewables, it might make more sense to use public policy as a tool to promote heating/cooling planning leading to a more rational allocation of resources. As an example, electrification of heating through a greater uptake of heat pumps is inherently neither better nor worse than a shift towards more renewable-based district heating/cooling networks. Both of these solutions will have a key role to play, heating and cooling networks being an optimal solution in cities and heat pumps being the preferred option in less densely populated areas. All renewable sources of primary energy will need to be deployed in order to successfully meet heating and cooling demand beyond 2020. The vital role of policy-makers will be to promote the most appropriate and cost-effective means of delivering them to the end-user.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

One essential point is that the pursuit of increased energy efficiency and a greater role for RES are mutually reinforcing objectives. Reducing total energy consumption through efficiency measures allows for a renewables target (e.g. 20% by 2020) more quickly and at a lower cost than would otherwise be the case. Additionally, two of the most effective means of deploying renewable heating and cooling - district energy networks and heat pumps – are also well-established contributors to the goal of increasing energy efficiency.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

John Hontelez, Forest Stewardship Council, j.hontelez@fsc.org

2. Are you responding to this questionnaire on behalf of /as:

NGO

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Other (please specify)
Which other country? -open reply-(optional)	FSC is a global organisation. Formal seat Mexico
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
B.6. How do you see the relation between	

support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?  
-multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

For solid biomass it is essential that its mobilisation ensures real net GHG emission savings, and this on the basis of environmentally sound and socially just land use and harvesting, also to comply with EU's internal and global biodiversity obligations. So beyond effective carbon accounting, sustainability criteria are needed for all solid biomass from forests/plantations which should include evidence of

sustainable forests/plantations management. As management proof, FSC certification should be required, or equivalent evidence. This equivalence is to be judged with transparent and participatory assessment procedures. FSC certification ensures a stable carbon balance of a forest/plantation, necessary for keeping the quality of the ecosystem. It also ensures that a plantation did not replace a, richer biodiversity, forest. FSC certification is achievable for all foresters with interest in sustainability. FSC alone has already certified some 20% of EU's forests available for wood supply. It should be considered that we need forests, from now on, for more and more material underpinning a green economy, such as in construction and bio-chemistry. Policies should in the first place put more emphasis on lengthening wood products life-cycles and the re-use of wood products at the appropriate stage in the life-cycle. This cannot be imposed directly, but strict sustainability criteria for solid biomass directly originating from forests/plantations can help pushing in this direction.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy

by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?  
-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

Andrea Stengel, Energy Norway, as@energinorge.no

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Other (please specify)

Which other country? -open reply-(optional)

Norway

4. How would you prefer your contribution to be published on the Commission website, if at all?  
-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable

Yes, an indicative and non-legally binding target at EU level is

<p>energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>appropriate - Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate</p>
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

In our view, the overarching target needs to be the establishment of an ambitious climate policy and based on that equally ambitious CO2 reduction targets and a functioning ETS. In consequence, we believe that to decarbonise the power sector while securing the energy supply at the lowest long term cost to consumers, EU ETS and the internal energy market should be the main policy instruments to drive the necessary investments in new generation after 2020. We are confident that renewables will demonstrate its competitiveness to investors within such a policy framework, increasing the share of renewables in the energy mix. In such a framework indicative targets for renewables may have role, but we believe legally binding targets post 2020 will distort the internal energy market as well as reduce the efforts to decarbonise the European economy through EU ETS. For sectors outside the EU ETS post 2020, the inherent conflict with RES targets are less striking, and sectoral binding targets may have a role in these sectors.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables</p>
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## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

Post 2020 financial support other than through the ETS should primarily be needed for technologies which are in R&D or pilot phases such as for example wave power. For sectors outside the ETS support may still be needed, but that depends on CO2-taxes or other measures to reduce GHG and should be adjusted according to development of cost for RES compared to cost for current energy supply .

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

If support schemes are deemed necessary, the choice should be towards a support scheme that exposes the generator at least partly to market prices. For example in the electricity markets certificates or premiums should be preferred to pure feed in tariffs, as this way generators are exposed to the market price of electricity at least partly.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>No, support levels should be entirely up to Member States</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>Yes (please explain how this could be achieved and which support structure you consider most suitable)</p>
<p>Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)</p>	
<p>While the level of support should be up to a Member State, the general structure of support schemes should be gradually aligned towards market based support schemes. For that reason we are in general sceptical towards making differences between different technologies in the support schemes as that might make the support scheme and the certificate market work less efficiently. However if for reasons such as support of an infant technology special support schemes are established to support certain technologies, it is important to create the system in such a way that there control over the total volume and the total costs.</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>Yes, there is a difference between sectors such as electricity, that are within the EU ETS, and heating/ cooling and transport, that are not in the ETS. For these sectors outside EU ETS, support schemes can include mandatory targets as they don't disturb the functioning of the ETS. In addition, RES in electricity are already more established and RES in heating and cooling or transport.</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	<p>Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries</p>
<p>Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)</p>	
<p>Member states should not be obliged to cooperate but should be able to choose to cooperate with other Member States when setting up their support schemes. An example is the joint Norwegian - Swedish certificate schemes. However common systems are not without challenges. They need to take transmission capacity and a certain balance of the location of production and consumption into account For example if there are more resources in one state but less consumption, there needs to be enough transmission grid to transport the electricity to the consumption centers in the other states. So transmission cost need to be added to the total cost of the support scheme. If not, large amounts of capacity will be established where cheap production exist, but may be at higher cost for the total energy system and the end user due to high transmission cost.</p>	
<p>Please explain how it could be achieved for third countries -open reply-(optional)</p>	
<p>Yes, if there is a physical connection between the third country and the EU internal electricity market.</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>
<p>Please specify which support schemes you consider most distorting -open reply-(optional)</p>	
<p>All support schemes distort competition – although some more than others. • Feed-in – distortions both with regards to the total capacity installed and on short term operation of the electricity markets • Feed-in premium – as above, but the premium gives a lower level of fixed support and therefore less influence on short term electricity market • Certificates – exposed to market both via power price and certificate price - so less influence on the short term electricity markets than with feed in and feed in + premium The demand for RES in a certificate system is controlled via the quota you set, so there is control of the on the volume of RES installed. In a premium system there is not control of total volume installed, but lower price in the power market will reduce incentive to invest.</p>	

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Lengthy procedures are the most serious obstacle to new projects – both for hydro, wind and new grid investments. There is a need to increase awareness of the coupling between climate change, renewables, need for energy and standard of living/value creation – in order to get acceptance for new generation capacity and net investments. The water framework directive is another example, where the need to protect biodiversity needs to be balanced with the need to generate sustainable renewable electricity.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

In the context of the implementation of the third energy package, ideally all will be solved with the framework guidelines and network codes where work has already started.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access

D.2.1. Please explain why -open reply-(optional)

The obligation for network operators to develop their network exists already now. Access should be guaranteed, on the condition, that the RES generator pays their share of the cost of grid access as other generators do.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could

Price risk - producers of renewable energy should be obliged to

<p>renewable energy be made responsive to market signals? -multiple choices reply-(optional)</p>	<p>sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)</p>
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

Producers of RES should bear the same balancing responsibility towards the TSOs as other generators. This is the best incentive to reduce total system cost by for example improving wind forecasts etc. If the individual producer doesn't feel able to bear that responsibility, he should of course be able to outsource it and pay for the service, so as a lot of German RES producers do. That way a professional RES service industry can be established if needed, again reducing the cost for the overall system.

<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	<p>Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility</p>
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

We think that current market arrangement are sufficient to reward flexibility, if they are allowed to work, i.e. price caps, regulated prices etc should be abolished. That also applies to industrial demand, that is already flexible in some countries for example in Scandinavia, although access rules to the spot market and awareness could be improved. However to access the demand response resources from households and small and medium sized companies extra support might be necessary to first raise awareness and then install smart meters, that allow demand management and demand aggregation.

<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>The current wholesale market model based on short-run marginal cost pricing is appropriate</p>
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## F. RENEWABLES IN HEATING AND COOLING

<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	<p>Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of capacity (installers, other)</p>
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<p>F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)</p>	<p>Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production</p>
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<p>F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)</p>	
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In our view, energy efficiency should be the first priority. In addition, the sector needs to switch from burning gas and coal to CO2 free

energy carriers, such as renewables but also electricity.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail

G.2.1. Please explain your answer -open reply-(optional)

Passengers drive mostly short distances. This can happen in electric and hydrogen driven cars + hybrids – including city buses, which can cover 80-90 % of passenger transport by cars. The technology is already almost here, but costs have to come down, which is the main obstacle to deployment. The same goes for rail, which uses electricity, which is a CO2 free energy carrier.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

- the North Sea Offshore grid initiative including Norway - the cooperation with North African countries concerning solar power

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

The prioritisation of investment project concerning electricity grids is well handled within the Infrastructure Package and the Ten Year Network Development Plan. The procedures laid down in the TYNDP should be allowed to work.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

- Release big offshore wind potential - Utilize renewable potential in Norway - Utilize flexibility potential in Norwegian hydro to balance the intermittent wind - Stimulate technology development and standardisation – offshore wind and grid

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Geothermal. There are large resources and few environmental obstacles, but high cost. Key questions are how to reduce cost and to improve the necessary technologies, both for heating and power and electricity generation.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the

Greenpeace, frauke.thies@greenpeace.org

<p><b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	NGO
<p>3. Please indicate your country -single choice reply-(optional)</p>	European organisation
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	Yes, a mandatory target at EU level is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Greenpeace supports an ambitious and legally binding target for renewable energy. We consider a share of 45% renewables in final energy consumption as the appropriate target for 2030. As the EU 2050 Energy Roadmap demonstrates, renewables will have to become the central energy source in Europe. Until renewables technologies reach their full competitive potential and until existing barriers are removed, they should benefit from dedicated support. As has been demonstrated e.g. by the International Energy Agency and the Intergovernmental Panel on Climate Change, the EU Emissions Trading Scheme (ETS) is important to internalise external costs of carbon-based technologies, but it will not be sufficient to drive the technological development of renewables. A specific renewables target is important to give sufficient investor confidence and enable the most cost-effective uptake of renewables. However, Greenpeace warns that the achievement of such a target must not be based on unsustainably high levels of biomass and biofuels. The use and cultivation of biomass can lead to considerable greenhouse gas emissions that often take decades or more to recover. These emissions are currently unaccounted for in European legislation. In addition, many forms of biomass use can lead to significant ecological impacts. We therefore believe that a 2030 renewable energy target has to be complemented with effective safeguards and limitations on biomass use.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

As a priority, stable regulatory and financial support conditions and improved grid access are important to further the uptake and development of renewable energy technologies. At the same time, support to fossil and nuclear technologies should be abolished entirely and external costs should be internalised. This should include a strengthening of the EU ETS to account for the cost of carbon dioxide

emissions from fossil fuels, the internalisation of costs of other emittants such as SOx, NOx and fly ash, as well as the internalisation of the full cost of nuclear insurance, plant decommissioning and waste storage by the investor. Market rules, as well as grid access and development procedures that favour centralised and inflexible power generation should be reformed to remove any such distortions. Finally, a strong regulatory framework for energy efficiency, including ambitious and legally binding targets, could facilitate the achievement of significant shares of renewable energy and reduce the cost of Europe's energy supply.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will be required until the design of the energy market has been adapted to accommodate the characteristics of renewables and renewables have reached their full competitive potential. One important aspect of such a transformation will be the creation of an energy system that is suited to integrating renewable energy sources. The European Commission should continue to drive the modernisation of Europe's grid system to enable smart management, integration and balancing of renewable energy supplies and consumer demand. Energy market rules should be adapted to reward flexibility and system services.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

Support schemes should reward renewable energy suppliers not only for delivering power, but also for system services. Dispatchable renewable energy technologies, such as biomass electricity and CHP should adjust their production to follow demand. While we consider it important that renewable energy technologies can support the stability of electricity supplies, the design of the power market will also need adjustment to reflect the different characteristics of renewable energy sources. A convergence of renewable energy support should focus primarily on grid access rules and permitting procedures including, for example, continued priority grid access for variable renewable energy sources. The framework of cooperation mechanisms should be extended to enable cross- border projects. While the substantial difference in energy market prices across Europe, as well as different resource conditions, make a definition of benchmark support levels in Europe difficult, member states should have to make the methodology for support price definitions transparent. An undue concentration of renewable energy developments in certain regions should be avoided. Such a concentration would increase the challenge of grid integration and the balancing of supplies. An extreme regional concentration could also lead to problems of security of supply and and public acceptance. Deploying a basket of renewable energy technologies is the best recipe for maximising environmental benefits and efficiency

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Despite the different characteristics of the sectors, important overlaps have to be considered. Biomass is a fuel that can be used in all three sectors but the level of available sustainable biomass resources is limited. Biomass should therefore be used as efficiently as possible and dedicated to appliances where sustainable alternatives are not available, e.g. as a dispatchable source in the power sector.

Overlaps also exist for the electricity sector, as electricity will increasingly be required for electric vehicles in the transport sector, and to some extent also for geothermal heating. Support policies should encourage the mutual support of these sectors, e.g. by encouraging smart charging of electric vehicles to fulfil a balancing function for renewable electricity.

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	<p>Member States need to be able to continue support schemes on a national level and retain control over who benefits from national schemes</p>
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>No, support schemes do not have a significant distorting impact on competition</p>

## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)</p>
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

In many cases, permitting procedures are still too lengthy, involving numerous authorities and bureaucracy. Procedures also differ considerably between countries, with little European guidance on best practice available. In many countries, procedures also do not sufficiently reflect the different nature of renewable energy technologies. In particular, for small-scale installations with very limited environmental and social implications (such as rooftop photovoltaics) procedures should be simplified or even waived. The lack of legally binding sustainability criteria for biomass at the EU level is leading to market imbalances and provokes public opposition.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other</p>
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	<p>Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime</p>
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The degree to which these rules will continue to create obstacles after 2020 depends on the implementation of the internal market legislation and the Renewables Directive. Grid system operation and arrangements are currently still guided by the characteristics of a thermal-power based and centralised electricity system. Grid connection rules and grid codes have been developed to accommodate the requirements and abilities of fossil-fuel and nuclear power stations. Renewables have different qualities and require different rules. Cost-sharing rules are often non-transparent and responsibilities are not always clear. In some cases, cost-sharing rules are inappropriate such as when renewable energy suppliers have to bear the costs of grid system upgrades. Balancing rules do not

sufficiently reflect the capabilities and needs of renewable energy technologies. A stronger focus on intra-day markets and gate closure times closer to real-time would improve the integration of renewables. Also, renewable suppliers should be reimbursed for specific system services (ancillary services) they provide. Finally, curtailment decisions are often non-transparent and can lead to uncertainty for renewable energy investors, especially if the rules for reimbursement are insufficient.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment - Other (please specify)

Please specify which other rules -open reply-(optional)

D.2.1. Please explain why -open reply-(optional)

With regard to network development, the power grid is a natural monopoly and grid extensions serve multiple purposes and beneficiaries at the same time. In the past, the grid system has been developed around centralised power stations, while the costs have been socialised. Similarly, grid operators should accommodate the (changing) power supply structure to achieve Europe's internal market objectives and to enable the integration of renewable energy sources today. Today's power markets are not fully competitive, and market rules have been defined on the basis of fossil-fuel and nuclear power plants. As long as the electricity system and its rules are not sufficiently flexible to allow for the optimal integration of renewable energy sources, priority grid access and dispatch, as well as obligatory network developments will be necessary. However, where possible and appropriate (e.g. for biomass), a demand-driven dispatch should be prescribed or encouraged. Technical standards and connection rules should be transparent, technology-specific and proportionate. An alignment and eventual harmonisation of grid connection procedures and standards is desirable, provided that the rules are proportionate. A harmonisation guided by exceptionally challenging regional situations would increase costs unnecessarily. Deadlines for connection should be introduced on an EU level, with penalties for non-compliance.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

All above measures are relevant. Priority should be given to measures that make the system more efficient including demand response, an adjustment of trading rules, the better use of interconnectors and the upgrade of electricity infrastructure. To maximise the efficiency of the energy system and to reduce curtailment costs, inflexible power generation should be gradually phased out. Please see Greenpeace's Battle of the Grids report for more details on the effect of baseload power stations in a system with increasing shares of renewable electricity: <http://www.greenpeace.org/eu-unit/en/Publications/2011/battle-of-the-grids/>

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

An increased exposure to price risk for renewables could be introduced, particularly for dispatchable renewable energy sources like biomass. However other renewable energy suppliers (depending on the level of a technology's maturity) should also be encouraged to adjust their power output to consumer demand if realistically possible. At the same time, market rules should be adapted to increase the flexibility of the power system and manage demand. As renewable energy technologies mature, suppliers should increasingly be encouraged to contribute to balancing services to the electricity system, e.g. through improved predictability and the technology-specific provision of ancillary services.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Active demand-side management should be encouraged for industrial consumers, but also for individual households and appliances, such as electric vehicles.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

-single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

-multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

The continued high energy consumption of buildings acts as a barrier to an efficient and fully renewable energy based heat supply. As a first priority, stronger energy efficiency standards and deep retrofit programmes should be required for both new and existing buildings to promote the combined application of energy efficiency and renewable technologies. Financial support mechanisms for renewable heating technologies often depend on regular budget decisions by national governments. In many cases, this has led to intermittent and often insufficient support levels and programmes. As a result, renewable energy investments, as well as efficiency improvements, have not yet become commonplace in the residential sector.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

-multiple choices reply-(optional)

Geothermal - Solar thermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

As a priority, solar thermal and geothermal heating should be promoted in the heating sector. As sustainable biomass resources are limited, biomass should only be used where no sustainable alternative is available. Biomass appliances should be as efficient as possible. Inefficient wood-burning appliances should be replaced with modern biomass stoves and preference should be given to biomass CHP. Support for renewable heating technologies should encourage compatibility with the electricity sector. For example, geothermal heat pumps and CHP plants should be driven by the availability of surplus power and demand on the electricity market.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Energy efficiency and renewables in the heating sector should go hand in hand to minimise costs and environmental impacts. Retrofit programmes and building regulations should focus on renewables and efficiency in an integrated and coherent manner. Increased

energy efficiency reduces the cost of a fully renewable heat supply. For example, solar thermal heating systems are often complemented with additional heating options, but an improved building efficiency could in many cases eliminate the need for additional heating and cooling technologies.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Pace of technology development - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

Governments currently focus their support of renewables in the transport sector largely on biofuels. But as long as the sustainability standards of biofuels are inadequate, there will be valid concerns about their environmental impacts. Additional concerns about the inefficient application of limited biomass resources have further strengthened opposition to the use of biofuels in passenger cars. Support for sustainable alternatives for passenger transport, such as electric vehicles and trains, is currently insufficient in most Member States.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail

G.2.1. Please explain your answer -open reply-(optional)

To improve the sustainability of the transport sector and enable increasing shares of renewable energy, regulation should focus primarily on improving the efficiency of the sector. At the same time, EU policies should encourage the use of renewable electricity in transport. Incentives should be put in place to ensure the smart charging of electric vehicles that can exploit lower market prices, help balance the electricity market and improve the overall efficiency of the energy system. As for biofuels, only those that are truly sustainable should be developed and used.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

The uses of biomass for energy production must not exceed the level of sustainable biomass that is available taking into account other demands. The following sustainability criteria must be applied to the production of biomass and bio-energy: - Considering the whole production chains and ILUC effects, bio-energy must reduce total GHG emissions by at least 60% in comparison to fossil energy, within a specified timeframe - Bio-energy production must not cause destruction/damage to important carbon stores/high biodiversity habitats, directly or indirectly - Sustainable agricultural practices are applied that will not result in accumulation of agrochemicals - Crops/plantations for bio-energy must not concentrate on monoculture plant and tree plantations - Forest biomass is sourced according to environmentally responsible and socially just forestry standards - Social conflicts are avoided and food security, livelihoods, land rights are not undermined - GMOs are not released to the environment

H.1.1. Please explain -open reply-(optional)

To ensure sustainability and public support, the use of biomass and biofuels has to contribute to significant emission reductions without causing unacceptable ecological and social impacts.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient

Yes

<p>to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>As a priority, the European Union should take a global leadership role by developing a renewable energy supply in Europe. Europe's example could thus become a strong driver for renewables development globally. At the same time, the EU should aim to stimulate renewable energy production around the world, e.g. through a prioritisation of renewable energy in the EU's energy partnership programmes. The focus should be on sharing experiences on effective regulatory frameworks and renewable energy technology learning. Furthermore, the EU should strive to ensure that the United Nation's Clean Development Mechanism (CDM) and future sectoral mechanisms focus on leveraging investments in truly sustainable renewable energy and energy efficiency measures. Greenpeace welcomes that at COP17 in Durban the Climate Technology Centre and Network were adopted, allowing the international technology support mechanism to become operational. However, environmental integrity should still be ensured, so to warrant the mechanism can support renewable energy and energy efficiency technologies.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>No (explain why)</p>
<p>Please explain why -open reply-(optional)</p>	
<p>Electricity network investments should generally be targeted towards integrating renewable energy technologies and making the power system more efficient. As a priority, grids should be upgraded to enable the integration of renewable energy supplies within in the EU. While renewable energy imports from North Africa may play a role in the future, this will rely on the completion of a strong electricity grid system inside the EU as a precondition and logical first step.</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>As a priority, the EU should exploit its domestic renewable energy potential and serve as an example to its neighbours and around the world. Some complementary imports may play a role in the long- term. In the context of the European Neighbourhood policy, as well as for Europe's foreign policy globally, Greenpeace encourages a focus on renewable energy to support countries in exploiting their respective renewable energy potentials.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>Currently, offshore wind farms are developed in an uncoordinated way. The North Seas Countries Offshore Grid Initiative is a good first step to enable better coordination and exploit better system efficiencies. To maximise the benefits of the initiative and ensure the implementation of projects, industry, regulators and other stakeholders should be involved in the process from an early stage. The</p>	

NSCOGI could then serve as an example for further regional initiatives across Europe.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

In particular with respect to the initiative on bio-energy, research should continue to assess and monitor the lifecycle emissions of different sources of biomass and biofuels and ensure that only genuinely sustainable sources are further developed and used.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The EU should develop a methodology to analyse the full life-cycle greenhouse gas impacts of biomass and reflect this in the legislative framework for biomass support.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Greenpeace believes that some of the more nascent but promising renewable energy technologies would benefit from an industrial initiative, namely ocean power and geothermal energy. Finally, the existing initiative on hydrogen and fuel-cells should have a wider scope to focus on energy storage options more broadly.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Thomas Nowak, European Heat Pump Association, thomas.nowak@ehpa.org

2. Are you responding to this questionnaire on behalf

Industry

of /as: -single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
<p>The heat pump industry supports general targets as a framework for market development to increase predictability &amp; foster investments in the RES sector, leaving the choice of the most efficient solution to the market. Any policy that deviates from this principle by giving subsidies in varying height and duration based on different sets of requirements for different technologies should be reconsidered. As both, reduced GHG emission and a larger RES share in total energy use is aimed for, these goals should be addressed when defining quantifiable targets. Such targets should be ambitious enough to trigger innovation, create employment &amp; growth. Particular focus should be set on Renewable heating and cooling, including support for efficient technologies using RES. Heat pump technology is a prime example that has been overlooked in the past. - Subsidies to technologies using predominantly (&lt; 50%) fossil fuels should be abandoned immediately. - If paid, subsidies should be technology neutral aligned to the targets (RES contribution or GHG savings of the subsidized technology). One kilowatt hour of renewable electricity should be treated the same as one kilowatt hour of renewable heat in the future. - As feed-in tariffs for electricity are a burden for heat pumps making them more expensive, a political solution (possibly a clearing party) must be implemented to overcome this issue.</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
<p>A strong focus on R&amp;D for renewables will make these technologies more cost competitive and efficient. It should lead to technical solutions for market segments, where RES cannot be applied today. More R&amp;D will contribute to larger sales volumes, enabling faster movement on the cost curve and increase the impact to RES use and GHG emission reduction. Legal requirements should be alleviated, especially when they do not create a level playing field for the different subsidized technologies. Member States should refer to European Standards when setting (efficiency) requirements and avoid deviating from them. Such approach will enable development and sales of one product type for the single European market. (Negative examples from the HP field: efficiency requirements in France (NF PAC), in the UK (MCS), in Germany (Ecolabel/Umweltengel/EHPA Quality label) are mutually not compatible, thus increasing cost and administrative burden!) No support schemes should include technologies that are predominantly based on the use of fossil fuels (as committed to by G-20 leaders in 2009). World- wide subsidies for fossil fuels is still higher than RES (OECD). RES technologies have shown a cost advantage in the long term. RES based Public procurement can serve as a lighthouse when it tackles higher initial investment to benefiting from savings in operational cost later. Heat pumps would provide such triple dividend reducing energy cost &amp; emissions in parallel increasing RES</p>	

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

It may be possible that for some sectors/circumstances and markets support is still necessary. Assuming however, that the current set of legislative measures (RES, EPBD, ErP Lots 1,2,10,11, EED) is properly and swiftly implemented in member states and that by and far a level playing field for subsidies is achieved, RES technologies, also for heating and cooling should see strong growth in the next six years leading to markets that will mature quickly and are becoming cost competitive with traditional technologies. Many studies reveal that the costs of a future energy system are rather similar with a big difference in the timing of necessary support. Impact on the use of RES is biggest if action (and financing) is immediate! Instead of considering future support, a strong focus and measures to jump-start efficient, currently available RES technologies are necessary. Pre 2020 and post 2020 the EU and MS should provide support schemes to overcome the higher initial investment cost. This could be executed via national cooperation partners in the banking sector that understand the specific risk-return ratio. A good example is Germany, where preferred loans are handled by the government owned KfW bank in cooperation with local partners. As an expected result, consumers will be able to achieve bigger loans to pay for the extra investment, but lower operating costs will provide the opportunity of larger payback amounts.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Successful support schemes follow a set target, are transparent, easy to administer, long term and budget independent. They need to be adjustable to changing circumstances. If the target i.e. cost competitiveness, a certain efficiency etc. is reached, it must be possible to stop them - until then, a gradual phase out should be foreseen to guide the markets into independence. In the meantime, it is important to create a level playing field so that the uptake of RES technologies is based on the appropriateness for the given area/project, rather than by a price that is artificially lowered through subsidies.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

In a situation, where all technologies are treated equal based on their contribution to the shared targets, all should also be treated equal with regard to the amount and duration they are subsidized.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

In general, those governing bodies that pay for the subsidies should be the ones that define the financial support. As long as the European Union is not starting to set up subsidy schemes itself, the decision on support schemes should be left with the Member States. An important tool to align support schemes is to base them on a common methodology and on a common benchmark, including the respective market cost structures. One option could be the calculation of the CO<sub>2</sub>-savings per Euro invested per technology and region. The obvious difficulty will be to decide on the methodology to use. In a similar approach, support for sectors should be evaluated.

Enabling at least a basic comparison of the sectors would make it possible to see where to best invest/provide support in order to channel available funds most efficiently. As the heating and cooling sector has not yet received the same support and subsidies, special consideration should be given to awake this "sleeping giant"

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

Member States need to be able to continue support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes that are not very well designed are most distorting. As previously stated: a good support scheme is transparent, easy to understand and use, follows a defined goal and is budget independent. Experience shows that feed-in tariffs are superior to many other solutions. For the heating and cooling sector, feed-in tariffs financed by a levy on the use of non-renewable energy sources (fossil and nuclear) are preferable. With regard to support of different technologies, a thorough comparison should be aimed for. This could be based on a comparable criterion, e.g. CO2 emission per invested euro. In case feed-in tariffs exist for electricity, the re-distribution of the cost of the desired change of electricity production has to be borne by all electricity users. This increases the operational cost of heat pumps and - even though they use RES and increase energy efficiency - negatively influences purchasing decisions. Such negative incentive should be avoided, however solutions to overcome this issue have yet to be developed.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Ideal administrative procedures are swift and timely. In the case of heat pumps, administrative procedures to obtain a drilling permit often seem random, resulting more from tradition and perception than from on scientific knowledge. This results in additional planning cost, planning insecurity possibly negatively influencing the investment decision. Procedures should be aligned. Contrary to the aim of the different pieces of legislation being applicable in one European market, Member States are starting to set up additional requirements, often on efficiency and quality. Examples are France and the UK: NF PAC (France) and MCS (UK) are by and large not compatible and require additional testing and administrative steps from manufacturers in order for their products to become eligible for support under national legislation. The industry strongly supports a drive for better quality, but believes that identical requirements would not harm installation quality, while at the same time making it easier to develop and sell the same type of products across Europe in a single market. Training and certification is available for heat pumps in most EU countries. Industry has created a European training and certification program installers: EUCERT. It is in line with art. 14 (3,4) "Information & Training", RES-Directive. It is used in 13 countries. Governments should support an increase in the number of knowledgeable installers in the market by institutional & financial support

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY

## SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

Heat pump technology integrated in smart grids provides significant peak shaving potential. This should be considered when addressing the availability of demand side technologies in smart grids. This usually requires a modified, often more expensive design of the system and proper connections to the smart grid. If smart grids are taken seriously, standards need to be defined urgently to allow for market reactions on the product and systems level. Most important is the creation of incentive mechanisms that bridge the stakeholders responsible for grid stability, power production and demand side adjustment.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Lack of awareness - Lack of suitable information - Lack of public support - Other (please specify)

Please specify which other barriers -open reply-(optional)

Many studies reveal that the total costs of the transition to a future energy system are very comparable with a big difference in the timing

of necessary support. Impact on the use of RES is biggest if action (and financing) is immediate! Instead of considering future support, a strong focus and measures to jump-start efficient, currently available technologies are necessary. If immediate action is taken now, most likely the barriers mentioned above will be overcome by 2020.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Geothermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

We believe the question should include all renewable energy sources as defined in the 2009/28/EC, thus hydrothermal and aerothermal energy needs to be added. In general, heat pump technology is not getting sufficient recognition on the policy level. Heat pumps are using a huge share of renewable energy, thus replacing fossil fuels and consequently reducing emissions (in general, but in particular at the point of operation). The technology serves as load balancing thus stabilising grids. With respect to cooling - the use of electric heat pumps increases the similarity between electricity supply and demand. Necessary measures are: - integration of all types of ambient heat that can be made useful by heat pumps (air, water and ground) - alignment of policy measures: requirements from building legislation, eco-design, energy efficiency and use of renewables legislation should be based on the same method. Direct comparison should always be possible to guide consumers' decisions, possibly based on CO2-emission reduction per euro invested.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

In order to tackle the increasing energy demand, energy efficiency needs to be in focus. Heat pumps provide both: they make use of considerable share of RES and at the same time use the still necessary auxiliary energy most efficiently. They serve as multipliers in case electricity is coming from green sources.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>No, the EU should first focus on developing its own renewable potential</p>
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>Yes (explain in which way and to which degree)</p>
<p>Please explain in which way and to which degree -open reply-(optional)</p>	
<p>The EU should encourage the development of cross border networks to enable good connections between RES electricity production and the users.</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	<p>System integration - Other (please specify)</p>
<p>Please specify which other key challenges -open reply-(optional)</p>	
<p>There has been only very little positive outcome from the SET Plan for renewable energy, especially for small scale applications in heating and cooling. All in all there is a need for facilitating system transformation from current system to a renewable energy based system (paradigm shift). Research should thus focus on aspects serving as obstacles to such system change. From a system integration point, more research and development in the context of smart grids and demand side management is necessary to overcome technical limitations and create economic incentives that encourage end users to participate and utilities / energy services companies to provide infrastructure and tariffs.</p>	

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Small scale RES based heating and cooling should be given specific and continuous support. While the technologies are largely available and developed, many obstacles exist that prevent their widespread dissemination in the market place. RES heating and cooling will be a successful augmentation of RES electricity. While it will be covered partly by the smart cities initiative, it is a building block that requires individual support. Heat pumps have seen tremendous growth throughout Europe over the past 5 years, however the technology still has improvement potential on the component and especially on the system level. Heat pump based hybrid systems enable the use of renewables in virtually 100% of all application fields. Their capacity to provide heating and cooling at the same time makes them the preferred choice in office buildings and commercial applications. Industrial applications are possible, but need further research into new refrigerant pairs to increase the covered temperature range.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Existing measures have been successful, where available, but in general, the number of projects supported in the field of deployment under IEE was limited. Larger funding budgets should be made available to enable more continuous research.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

For the case of basic R&D, this does not seem plausible, as the outcome of such research is often not clear. For the case of research into technology deployment, as supported under the IEE programme and the future Horizon 2020, targets and deadlines should be set.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Enel S.p.A.

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Italy

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The existing 2020 binding target was fundamental in order to increase the penetration of RES in the market and reduce the generation cost gap with respect to conventional energy technologies. Such deployment has brought RES technologies close to being competitive on electricity markets. However, in other cases RES targets have reduced resources which could have been better allocated to stimulate low carbon innovation and have underestimated the cost for the consumer. In some cases renewable energy targets have led to an excessive focus on renewable sources based on assumptions made under a pre-financial crisis scenario. We believe that most renewable technologies will continue to gain significant market shares after 2020 entering the consolidation phase without the need of a specific EU binding target after 2020. The decision to extend RES targets beyond 20% should be left to Member States in line with the subsidiarity principle. In our opinion, the EU ETS should remain the key driver for decarbonising the European economy. The current scenario shows how setting mandatory targets for RES collides with targets for CO2 reduction since ambitious targets for RES deployment have contributed to low levels of carbon prices, the key driver for EU ETS. In such respect we believe that urgent action needs to be taken so that the ETS system provides the necessary price signals to ensure decarbonisation of the electricity sector through inter-alia the development of RES technologies.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Incentives to the system and final consumers in order to improve load management capabilities at the distribution level (smart meters, smart grids, storage)

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

EU RES promotion policies should converge in order to ensure that: A) Only a limited share of the market has access to incentive mechanisms thereby reducing the distortionary effects of incentive programs; B) There is a greater emphasis on optimal combination of policy instruments rather than the selection of one single instrument as the best solution. The choice of incentive mechanism should depend on the position of the target technology along the path to full market competitiveness and integration: 1) Pilot phase – financing should be provided through R&D support and not production incentives; 2) Initial development phase – Support should be provided first through feed in tariffs and after through feed in premiums as this phase of the technology's development is characterized by limited volumes with reduced distortionary effects and the presence of small operators requiring certainty over the incentive levels they will receive; 3) Near commercial phase – support should be provided through more market oriented instruments minimizing distortionary effects and encouraging cost revelation (i.e. quota obligations systems and auctions); Finally, as specific technologies enter a full

commercial phase and they are ready to compete in the market, support should be phased out. To ensure the sustainable growth of the most promising RETs, we would like to stress the importance of managing the total costs of the incentive and their sustainability in terms of market design and consumer

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Please refer to our comment to the previous question on the evolution of technology specific incentive mechanism. Cost-efficiency of support mechanism is a key principle of a good policy. The aim shall be to support RES in sustainable market conditions. On the one hand, R&D policy instruments could be more appropriate to sustain innovative and pre-commercial RETs. On the other hand, for a limited quota of technologies entering the development phase, feed-in and green certificates represent the most market-oriented solution as they force technologies to enter the market by stimulating competition.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with benchmark values for support level per technology per Member State

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

We believe the structure should be aligned in order to promote adoption of best practices in line with the vision outlined above for incentive policies; a common format/structure should be adopted in order to help investors compare incentive programs across different Member States.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

YES. The level of support should vary across Member States and sectors as it does not depend only on technological costs, but also on resource availability, the maturity of the different stages of the supply chain, administrative timing investment risks and most of all political decisions; regarding the latter, specific Member States may decide to reward RES despite low resource availability in light of their beneficial impacts on local territory and their own national strategies on energy and climate change. Nevertheless a European approach for RES support is highly desirable (i.e. greater coordination and convergence on support scheme).

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

However, such decision should be left to Member States depending on their national energy and climate change policies. We believe the

existing mechanisms foreseen by the RES Directive to be sufficient.

Please explain how it could be achieved for third countries -open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Some support schemes are more distorting than others. For example overly generous FITs without dynamic tariff revision capable to catch the gains deriving from learning curve improvements, is the best example that create distortion into the market compared to other support scheme that are more market oriented (e.g. green certificates).

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification - Other (please specify)

C.1.1. Please provide explanations and specific examples where available -open reply-(optional)

Length and complexity of connection procedure

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

We believe that by 2020 the issues concerning the rules identified in the questions will have to be solved to achieve the EU and national targets. In such respect none of the renewable-specific rules identified should be applied to RES production. Most RES technologies after 2020 should be ready to compete in the market. Those that are not and receive incentive, as innovative or non already competitive sources, should not enjoy preferential access conditions. In order to maximize transparency, such benefits should instead be incorporated into the financial support except for those technologies that are in the early development phases.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

None of the above

D.2.1. Please explain why -open reply-(optional)

Please refer to the clarifications provided to the previous question. We believe that by 2020 the issues concerning the rules identified in

the questions will have to be solved to achieve the EU and national targets. In such respect none of the renewable-specific rules identified should be applied to RES production.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Enable renewable generators to offer balancing services to TSOs  
- Other (please specify)

Please specify which other measures -open reply-(optional)

To increase the flexibility reserve of the system the regulation should facilitate a greater role for DSOs and support the interaction with the final consumers through different services. In particular the regulation should foresee, reactive voltage/capacity, capacity injection, remote interruption control and demand-side management, storage on the local level. The role of the DSO should be improved to dispatcher according to a more clear definition of its responsibilities and its area of actions. These issues are fundamental in order to allow the development of smart grids. They should be coupled to measure on the supply side (e.g. capacity remuneration mechanism as explained in question E.3.)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

In any case, every arrangement to reward flexibility capabilities should be designed in such a way that it does not bring about any distortion on electricity markets.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

We reckon that a substantial reduction (80-95%) of greenhouse gas emissions in the EU by 2050 will be mainly achieved through productions from intermittent renewable energy sources, i.e. solar and wind power. On the one hand, electricity produced from RES has near-zero marginal cost, therefore wholesale prices will be near-zero (or negative) for many hours. On the other hand, electricity systems must give security of supply, which can be provided by conventional power plants, i.e. CCGT, which have positive marginal costs. Given these opposing elements, Enel deems necessary the introduction of capacity remuneration mechanisms (capacity markets, capacity payments or reliability options) through which conventional power plants are able to recover their fix costs. It should be also noted that the introduction of national capacity remuneration schemes will require a centralized harmonisation process. In fact, without this characteristic, there could be inefficient power flows (i.e. high-marginal-cost power plants, that receive high “capacity remuneration fees”, produce electricity instead of low-marginal-cost power plants located in Countries that pay limited “capacity remuneration fees”) that are against the purpose of the Single European Electricity Market.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Lack of awareness - Lack of suitable information - Other (please specify)

Please specify which other barriers -open reply-(optional)

Non economic barriers (e.g. disinformation, access to finance, supply chain disorganized, lack of building regulation...)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

The electrification together with higher share of renewable in electricity production is already offering very interesting opportunities through the penetration of heat pumps and infrared heating.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

There is a strong interaction of promoting RES in heating and cooling with enhancing energy efficiency. There are significant synergies to be achieved in this area. One of the best way to promote energy efficiency is to supply heating and cooling services through electric technologies rather than thermal ones. In particular, heat pumps are the most important example of use in an efficient way of exploiting with the support of electricity renewable sources to satisfy heating and cooling needs.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail

G.2.1. Please explain your answer -open reply-(optional)

Greater electrification of the transport sector should be pursued as it allows to satisfy a greater share of transport needs through renewable energy sources thus reducing oil dependency and GHG emissions. Furthermore, the development of electrical transport (road and rail) could have positive impacts on traffic congestion and on local pollution.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient
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H.1.1. Please explain -open reply-(optional)	
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## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	Yes
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
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Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)	
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EU should provide an effective exchange platform providing updated information on the use of cooperation mechanism by MSs. The current regulation is sufficient but greater efforts should be focused on ensuring more transparent and timely information on how the mechanism are used and by whom. The choice of actually using the mechanism should be left to Member States.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	Yes (explain in which way and to which degree)
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Please explain in which way and to which degree -open reply-(optional)	
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Electricity interconnections in Iberian market is essential prior to the effective implementation of cooperation mechanisms. Otherwise distortions and operational complexity will be triggered in the market, particularly related with the need of backup and flexibility to be provided.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Bilateral agreements between Member States and third countries
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)	
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Yes, such regional initiatives should be promoted through information exchange platforms and public fora	
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I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)	
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Yes, such regional initiatives should be promoted through information exchange platforms and public fora.	
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## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

In order to ensure the RES development, we believe that the instruments and the measures should be those explained in section B. In particular, support schemes should be selected depending on the development stage of the technology (i.e. lab development and pilot phase through R&D support, initial development through feed in tariffs and feed in premiums, near commercial market oriented instruments).

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

We believe that storage technologies should have a priority given the positive impact on facilitating local grid management in high RES development scenarios. This technology influences the customer behavior on energy consumption management and optimization. Storage is not yet supported by technology specific current EU industrial initiatives, although the theme is already dealt within some of them.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

As explained in Section B, existing promotion schemes enabled a strong increase in the penetration of RES in the market and a sharp reduction of generation cost gap with respect to conventional energy technologies. However only a limited share of the market should have access to incentive mechanisms in order to reduce distortion effects of incentive programs.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Technology development should be linked to results and deadlines, in order to guarantee a continuous path towards final goals. Actual results may differ from prediction, and generally do, due to the difficulty of predicting innovation evolution, however clear targets on performances and costs should be fixed and monitored, in order to establish whether evolution is proceeding towards the goal or technology/cost limits are being achieved. This is a key to fostering new technologies, although tolerance in discrepancies between actual and predicted results should take into account expected impact of the technology being developed and of the level of development. Basic research should be considered separately and should allow larger spread investigation. Key decision on assisting basic research should focus on innovation that is created and excellence in the generated know-how, while actual results may differ significantly from expectation.

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Marc Chasserot, shecco, marc.chasserot@shecco.com & Alexandra Maratou, alexandra.maratou@shecco.com
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Other (please specify)
Which other country? -open reply-(optional)	Worldwide
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The nature of barriers to a greater uptake of renewables vary depending on the sector and therefore sectoral targets underpinned by approaches addressing the barriers in the different sectors would be necessary. Almost 50% of the total energy consumed in Europe is used for the generation of heat for either domestic or industrial purposes, the vast majority of which is produced through the combustion of fossil fuels. A much greater emphasis on the uptake of renewables in the heating and cooling sector is therefore needed if the EU is to move towards a low carbon economy. This is somewhat recognised in the proposed Energy Efficiency Directive, which requires Member States to adopt national heating and cooling plans to develop the potential for high- efficiency and/or renewable heating and cooling. However, such plans will be credible if they are underpinned by sectoral targets.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

- removal of non-financial barriers for entry - electricity market design changes (nodal pricing)

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

Assuming that pre-2020 support mechanisms are effective in making technologies that are high up on the innovation S curve, we estimate that such technologies such as wind and PV might not be needing support beyond 2020 as by then they should have become cost competitive. However, for technologies that are lower on the innovation curve (at earlier stage in the diffusion process) such as for example heat pumps, support might be warranted post 2020, until also these technologies become cost-competitive. We also believe that support for biofuels should cease until there is a clarity on the potentially damaging effects they might have on the climate.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

The UK has been the first country to adopt a scheme that provides long-term tariff payments to owners of renewable heating equipment. Phase 1 of the Renewable Heat Incentive scheme was launched in November 2011 and concerns the non-residential sector (commercial buildings, industrial applications), providing assistance to industry, business and communities across Great Britain for installing renewable heat equipment. Phase 2 of the scheme will be launched later in 2012 and will also cover the residential sector. The German government is also considering a similar approach when it comes to supporting renewable heat (similar to feed-in tariffs used for supporting renewable electricity or similar to the UK Renewable Heat Incentive scheme). According to the Governmental Energy Concept adopted in September 2010, the German government "will consider non-budget-related support through a market-based incentive system for renewable heat". Italy is another country expected to announce details of a renewable heat incentive. Phase out support schemes for fossil fuels, wind (after 2015), PV (after 2020), and biofuels until certain about sustainability methodology.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

An ideal yet not necessarily a realistic scenario would be to have an EU wide market for Green Certificates. As a second best, EU-wide benchmark values for support level per technology but measured by renewable output would avoid a situation that we often see today whereby a technology is installed in big quantities at a location that is not effective in terms of achievable renewable output. For example, if the PVs installed in Germany had instead been installed in the South of Europe, the environmental benefits would be much more significant.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

As already discussed, we see a feed-in support structure as the most suitable for promoting renewables in the heating and cooling sector. In the transport sector, we would support a move from today's approach of having a renewable target plus a separate target regarding fleet wide average CO<sub>2</sub>/km to having minimum energy efficiency CO<sub>2</sub>/km standards applied to every car sold plus having an obligation imposed on vehicle manufacturers to supply a given percentage of alternative fuel cars (following the example of California that adopted a regulation in January 2012, setting a zero-emission mandate on car manufacturers starting in 2018, requiring them to produce certain amount of clean vehicles each year, ultimately reaching 15.4% share of their fleet by 2025.)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of

Member States need to open their support schemes to renewable generation from other Member States

a rising share of renewables? -multiple choices reply-  
(optional)

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

This could be done through bilateral agreements between governments that will concern specific sectors and types of technologies.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Renewable installations are sensitive to design, commissioning and use. Installations from non trained and certified personnel that often fail to correctly design and/or install the heat pump would result in compromised effectiveness of renewable technologies (poor reliability, efficiency or renewable output). This emphasises the need for improved training for installers.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

Balancing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Single price marginal cost of balancing services.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -

flexibility reserve of the system: -multiple choices reply-(optional)	Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs
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## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

One might want to create a centrally organised balancing party in which different forecast errors balance out.

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

The current failure is in the contracting, ie in the inability to long-term contract electricity.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other)
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

Electrification of heating and cooling can enable renewables in heating and cooling in two ways: 1. electrification enables the use of electrically-driven heat pumps that have efficiencies over 100% and make use of renewable heat stores in the air, ground or water. The effect is multiplied when the electricity used to drive heat pumps already comes from renewables 2. heat pumps, very much so like

electric vehicles can also enable a greater uptake of intermittent renewables: indeed like the renewable energy stored in batteries of electric vehicles, heat pumps can also be used as a means to store renewable energy (eg at night time) by heating up water and storing it in their tank for later use.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Heat pumps are recognised as a renewable energy source in Europe, on the other hand they are also viewed a means of enhancing energy efficiency in heating and cooling, as heat pumps achieve efficiencies beyond 100%. However, efficiency and the associated emissions savings thanks to reduced energy consumption is not the only thing to consider when it comes to heat pumps. Much like the lesson learned from biofuels, we believe that a life cycle approach needs be considered when it comes to heat pumps. This is because there is a risk that an increased uptake of heat pumps that employ refrigerants with high Global Warming Potential, may lead to a situation where the refrigerant emissions counterbalance the energy related emissions savings. A recent report in the UK by Atlantic Consulting asserts that air-source heat pumps emit hydrofluorocarbons that would add 20 per cent to their carbon footprint. Until recently there has been a tendency to merely consider the energy saving offered by heat pumps, and disregard the greenhouse gas effects from leakage of high GWP refrigerant. Unlike heat pumps working with low GWP refrigerants, such as natural refrigerants, heat pumps working with high GWP refrigerant may not be as environmentally friendly as previously thought. There are available heat pump products that use refrigerants with low Global Warming Potential, and we believe that this type of technology should be incentivized, to achieve true emission savings.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of standards - Lack of infrastructure - Other (please specify)

Please specify which other barriers -open reply-(optional)

The limited availability of electric powered vehicles is a barrier to a greater uptake of renewables both in transport but also in the other sectors. Indeed similar to the case of heat pumps, electric vehicles can enable a greater uptake of renewables through: 1. Directly powering vehicles with renewably generated electricity and thereby ensuring that electrically powered vehicles are clean not only with regards to the vehicle emissions, but also taking account of the origin of the electricity powering the vehicle. 2. electrification of transport can also enable a greater uptake of intermittent renewables: indeed the batteries of electric vehicles, heat pumps can also be used as a means to store renewable energy (eg at night time).

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods

G.2.1. Please explain your answer -open reply-(optional)

We see the highest potential lying in the electrification of urban passengers transport as well as the electrification of urban goods transport. As highlighted in the Roadmap to a Single European Transport Area, in order to achieve the 60% emission reduction target in transport, the use of conventionally-fuelled cars should be halved in urban areas by 2030 and completely phased-out by 2050.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

One should avoid a situation where a project developer will have to speak to more than one government. An idea to address this would be to have in place a single agency to which project developers can talk to.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Could be combined with development aid.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Overall we agree with the Commissions objectives regarding technology exchange. However, it might not be smart to actually transfer the renewable output to Europe, when actually people locally still burn oil (no environmental benefit). Going ahead with investing in projects in North Africa could still make sense for promoting renewables, and can be promoted through recognising the renewable output produced and counting it towards meeting EU targets. The recognition could be implemented perhaps at a discount in order to still relatively favour projects in the EU.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Overall, it has been a good idea to plan jointly a network in the North Sea. However, there remain some technical barriers that point out that this not just a policy issue.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a

System integration

cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Methanisation could be an option: first produce hydrogen from renewables then make it react with captured CO2 to produce methane which can in turn be burnt in CCGT or CHP. This way one can burn CO2 neutral methane.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

There has not been enough focus on renewable heating and cooling, where most renewable output, as well as energy and CO2 savings potential lies.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

European Environmental Bureau (agathe.ernoult@eeb.org)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

We support the setting of an ambitious mandatory target to increase the share of renewable energy sources in the energy mix, with a view of drawing most of EU energy supply from renewables in 2050. Such commitment must be combined with effective legislation to achieve the EU's 20% energy reduction target, as energy savings are the most cost-effective way of increasing the share of renewables, as stressed by the Energy Savings 2020 study. However, the post-2020 renewable energy target should not lead to a further increase in the unsustainable development of bioenergy. EU's support to renewables should be based on the assessment of their sustainability and potential to reduce CO2 emissions. To this respect, bioenergy can be problematic for several reasons. Although several studies show that there can be a time lag before neutrality is reached, bioenergy is currently counted as zero emission and this should be fixed. Additionally, bioenergy use is driving direct and indirect land use change and putting additional pressure on water, soil and biodiversity. The availability of biomass should be questioned first before setting targets. For these reasons, renewables from all forms of bioenergy (liquid/fuel, solid and gaseous material) should be considered separately from other sources of renewable and should be addressed in a separate legal instrument. Additionally, no sectoral target should be set for the transport sector.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Facilitation policies are key to ensure the development of renewables and should focus on establishing a stable policy and legal framework on key issues such as permitting and financial support schemes, and on ensuring an improved access to the grid. Economic and fiscal incentives must be aligned with the EU objectives of decarbonisation and renewable development. The EU should abolish subsidies to fossil fuels and nuclear. It should improve the energy taxation directive in order to introduce a CO2 component, raising minimum rates and remove unjustified exemptions. Strengthen the Emission Trading Scheme by tightening the CO2 cap is also essential to maintain the incentive for renewables. Ensuring sustainability and scalability of renewable energy is crucial. Member states should not rely mostly on bioenergy as over-use of biomass for energy could increase the EU ecological footprint and have long-term negative environmental or social impacts. Hence renewable energy sources should be varied and rightly incentivized. The addition of further and enhanced sustainability criteria for biomass such as proper carbon accounting will be necessary to ensure that renewables make a difference for the climate and get public support. We support the setting of public procurement obligations to support sustainable renewables, for instance via the upcoming revision of the Public Procurement directive.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater

For selected technologies/circumstances/markets (please specify)

penetration? -single choice reply-(optional)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will be required as long as existing market barriers remain and until renewable energy technologies have reached their full competitive potential. With the internalisation of environmental costs into energy costs and increasing fossil fuel prices, the need for support to renewable energy should diminish but will still be needed for certain technologies, such as wave and tidal energy. Additional support could be needed for grid integration.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of credible and certified training and qualification - Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Lack of commonly agreed technical specifications: the lack of legally binding sustainability criteria for biomass at EU level leads to market distortions and generates public opposition.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

The necessary development of generation and transmission/distribution infrastructure must be combined with high levels of protection of Europe's natural environment. Planning procedures need to be improved to make them more efficient (reduce the length and complexity of permitting and authorization procedures), while making them more coherent with the principle of transparency and public participation, and making sure that they are effectively used to enforce environmental legislation, such as Natura 2000 and the Water Framework Directive, and to reduce the negative effect of infrastructure developments. In particular, better access to environmental information and earlier stakeholder consultation are needed to ensure public support to necessary infrastructure. Mandatory sustainability standards for all forms of bioenergy should be elaborated in order to eliminate barriers between countries and between different forms of bioenergy and to ensure effective decrease of emissions.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

Active demand-side management should be encouraged for industrial consumers, but also for individual households and appliances,

such as electric vehicles.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

The current high levels of energy consumption in buildings and the insufficient incentives toward building renovation constitute the main barriers to the uptake of renewable energy in the heating and cooling sector. High efficiency standards and comprehensive refurbishment programmes are needed to address the energy consumption of both new and existing buildings, and to promote solutions combining energy efficiency and renewable energy. Stronger uptake of renewables in heating will in many cases require greater use of wood, and existing 2020 renewable energy targets will begin to push the limits of feasible sustainable wood supply. Effective sustainability standards are urgently needed, alongside targeted measures to increase wood fuel supplies from well-managed forests in the EU. In addition, much of the potential for sustainable and low carbon bioenergy is in waste streams such as: sewage, food waste, agricultural waste and post consumption wood. Supporting the uptake of bio-methanisation could be relevant and much better than sending this wet biomass to incineration/ energy recovery plant. However, it won't be possible to tap into this technology without significant public policy intervention. Some useful policy interventions could be the improvement and better reinforcement of the waste legislation in order to ensure a separate collection for full recovery of useful biomass, and public investments in collection and processing.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Geothermal - Solar thermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

In order to reach 2020 target, Member States have indicated in their NREAPs that they will mostly rely on biomass for heating and cooling which might lead to a demand exceeding supply. Biomass availability for bioenergy should not indeed be overestimated. The level of competition between different users of forest products should also be taken into account. Some recent studies show that even if all measures for increased wood mobilisation are implemented, wood demand—from both industry and to meet the renewable energy targets—can barely be satisfied from domestic sources in 2020. It also shows that it will be certainly impossible in 2030, to supply enough wood to satisfy the needs of industry as well as to meet the targets for renewable energy. Biomass should therefore not be the most favoured source of bioenergy. Solar thermal and geothermal heating should be promoted in priority. Heat pumps can also contribute to efficiency.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

High energy efficiency standards and comprehensive refurbishment programmes should be used to combine energy efficiency with local renewable energy installations. Hence the importance of getting an effective Energy Efficiency directive, including binding targets, effective energy saving obligations on utilities (that will contribute to deliver savings in the building sector) and appropriate provisions on buildings (covering the entire building stock) and on deep renovation. Besides, significant efficiency gains from current biomass use are needed, particularly in households. Stronger incentives and/or regulation are needed to create a rapid switch to efficient biomass stoves for space heating, to replace inefficient open fires and older appliances. This could also have big effects for local air pollution, fuel poverty, fossil fuel import dependence and reducing pressure on overall biomass availability. Sustainability of biomass needs to be ensured.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main

Pace of technology development - Lack of standards - Lack of

barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)
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Please specify which other barriers -open reply-(optional)

The main barriers against a stronger uptake of renewables in the transport sector is a sectoral target that has only driven to the lowest common denominator without robust enough sustainability criteria to protect against some negative externalities of these renewables. This has led to increase of emissions, land use changes and other social and environmental concerns. On top of it the debate on Indirect Land Use Change has contributed to the decrease of investments. The main driver of decarbonisation in transport sector would be the setting up of a sustainable plan for transportation in Europe together with an overall target for renewable in energy and the policy should shift from volume target to GHG emissions targets while ensuring proper carbon accounting. The Fuel Quality Directive should be one of the key tools for this purpose. Electrification is already a workable solution for rail and passenger transport and must be further developed and incentivized. Biofuels can be considered but only if other forms of emission savings are difficult (e.g. road freight, water transport or aviation) and only with strict sustainability criteria including a full life cycle assessment (including indirect emissions)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail
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G.2.1. Please explain your answer -open reply-(optional)

Efficiency measures and pricing signals should be the priority measures used to reduce emissions from transport. On the other hand, the promotion of alternative transport fuels and infrastructure should be based on their true carbon footprint (including indirect land-use change in the case of biofuels), as science shows that some biofuels are worse for the climate than fossil fuels. Besides, biofuels should not be promoted just because some sectors can not use other alternative fuels. Promotion of biofuels should be based on correct carbon accounting and be part of GHG footprint based targets, such as the ones in the Fuel Quality Directive. There is some potential to use sustainable biofuels, but the market uptake in aviation and water transport is difficult, as these modes of transport at the moment pay no fuel taxes. This has to change first. In road and rail transport, electrification seems the most viable low carbon solution in the mid and long term perspective. Electrifying transport and building infrastructure has to go hand in hand with the uptake of renewables in the grid. This will lead to truly sustainable and low carbon transport. The best way to promote the uptake of electric cars are ambitious fuel efficiency standards, such the current 95 g CO<sub>2</sub>/MJ in the legislation and further ambitious target of 70 g by 2025.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)
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Please specify which criteria  
-open reply-(optional)

It is very important that in the post 2020 period only biomass that is sustainably available is used. This could be done first of all by ensuring that there is a limit in the use of biomass (a hierarchy of uses), then that indirect emissions are fully factored in the LCA and included in sustainability criteria, finally that carbon debt is included in the LCA. All forms of biomass (fuel, liquid, solid and gaseous) should be subject to sustainability criteria. Non carbon based sources should also be subject to sustainability criteria.

H.1.1. Please explain -open reply-(optional)

It is very important that in the post 2020 period only biomass that is sustainably available is used. This could be done first of all by ensuring that there is a limit in the use of biomass (a hierarchy of uses), then that indirect emissions are fully factored in the LCA and included in sustainability criteria, finally that carbon debt is included in the LCA. All forms of biomass (fuel, liquid, solid and gaseous) should be subject to sustainability criteria. Non carbon based sources should also be subject to sustainability criteria.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for	
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cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)	
J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

IDENTIFICATION	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	EnBW Energie Baden-Württemberg AG, Viola Rocher, viola.rocher@enbw.com
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Germany
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
A. GENERAL POLICY APPROACH	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	Die EnBW befürwortet zur weiteren Unterstützung des Ausbaus erneuerbarer Energien EU-weite Zielvorgaben über das Jahr 2020 hinaus sowohl auf Ebene der EU als auch der Mitgliedstaaten. Die Aufteilung der Zielvorgaben auf sektorale Ziele sollte allerdings wie in der geltenden Richtlinie zur Förderung des Ausbaus erneuerbarer Energien weitgehend den Mitgliedstaaten überlassen bleiben. Eine überproportionale Belastung einzelner Sektoren sollte dabei vermieden werden. Hinsichtlich der Festlegung ist ein Abgleich und Ineinandergreifen mit den Klimaschutz- und Energieeffizienzzielen ist dabei unabdingbar.
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Zielvorgaben allein sind nicht ausreichend, sondern müssen von unterstützenden Maßnahmen begleitet werden. Im Vordergrund muss dabei insbesondere eine Förderung mit dem Ziel der bedarfsgerechten Erzeugung stehen. Dies betrifft vor allem die Bereiche Speicher, ggf. kurzfristig einsetzbare Erzeugung (Gasturbinen) und den Netzausbau (auf Übertragungs- aber insbesondere auch Verteilnetzebene). In diesem Zusammenhang würde u.a. auch eine Klarstellung, dass Stromspeicher nicht als Letztverbraucher zu werten sind, hilfreich sein.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Ja, auch nach 2020 wird voraussichtlich eine finanzielle Förderung erforderlich sein, allerdings sollte sie sich vor allem auf die Erreichung einer bedarfsgerechteren Erzeugung bzw. Einspeisung konzentrieren (vgl. A2). Ziel muss es jedoch sein, eine Integration in das Energieversorgungssystem auf Marktbasis zu erreichen.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Die ENBW erwartet mittelfristig das Erreichen der Marktfähigkeit einzelner erneuerbarer Technologien (insbesondere Wind-Onshore, ggf. Wind-Offshore, PV). Bei der Förderung bis dahin nicht marktfähiger Technologien, sollte Kosteneffizienz eine noch wichtigere Rolle spielen. Dies sollte aber für die verbleibenden Technologien immer noch vorrangig im Rahmen der nationalen Fördersysteme erfolgen, bei gleichzeitiger verstärkter Nutzung der Kooperationsmechanismen der geltenden Erneuerbaren-Energien-Richtlinie, einschließlich der Unterstützung von Projekten in Drittländern.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Die ENBW erwartet mittelfristig das Erreichen der Marktfähigkeit einzelner erneuerbarer Technologien (insbesondere Wind-Onshore, ggf. Wind-Offshore, PV). Bei der Förderung bis dahin nicht marktfähiger Technologien, sollte Kosteneffizienz eine noch wichtigere Rolle spielen. Dies sollte aber für die verbleibenden Technologien immer noch vorrangig im Rahmen der nationalen Fördersysteme erfolgen, bei gleichzeitiger verstärkter Nutzung der Kooperationsmechanismen der geltenden Erneuerbaren-Energien-Richtlinie, einschließlich der Unterstützung von Projekten in Drittländern.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Allgemeine Anmerkung zu B.3: Die Ausgangsbedingungen und damit der Bedarf in den einzelnen Mitgliedstaaten ist nach wie vor sehr unterschiedlich und eine gemeinsame Herangehensweise daher sehr schwer zu realisieren. Das Förderniveau sollte daher den

Mitgliedstaaten überlassen bleiben. Im Vordergrund sollte eher stehen, die Abstimmung der jeweiligen nationalen Aktionspläne zu befördern und die materiellen Voraussetzungen wie den Ausbau der Netze zu schaffen. Allgemeine Anmerkung zu B.5: Vom jetzigen Zeitpunkt aus sieht die EnBW keine Notwendigkeit hierzu. Die Art der Förderung nach 2020 sollte stark von den tatsächlichen Marktbedingungen bzw. vom Ausbau des Binnenmarktes und insbesondere einem ausreichenden Netzausbau abhängig sein.

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes</p>
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<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>N/A</p>
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## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications</p>
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Die Länge und Komplexität von Genehmigungsverfahren stellen vor allem hinsichtlich des Netzausbaus sowie für grenzüberschreitende Projekte immer noch ein erhebliches Hindernis dar. Aber auch fehlende technische Spezifikationen wie z.B. zur Zertifizierung von Kabelumschaltplattform im Zusammenhang mit Wind-Offshore-Anlagen bereits schon im nationalen Umfeld stellen erhebliche Hindernisse dar.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Push for more standardisation and harmonisation on EU level or mutual recognition</p>
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Eine Verpflichtung zum Netzanschluss muss auf absehbare Zeit erhalten bleiben. Jedenfalls sollten die Erfordernisse des Netzaus- bzw. umbaus aufgrund des Ausbaus der Erneuerbaren in der Netzentgeltregulierung berücksichtigt werden können. Mit dem hohen Anteil erneuerbarer Energien an der Stromerzeugung/-verbrauch wird auch der Bedarf an Maßnahmen zur Sicherung der Systemstabilität deutlich ansteigen. Die erneuerbaren Energien müssen früher oder später in die Verfahren der Systemsicherheit integriert werden. Die Festlegung von Abschaltreihenfolgen vor allem auf nationaler Ebene und ggf. einer verstärkten grenzüberschreitenden Koordinierung wären in diesem Zusammenhang erforderlich.

<p>D.2. Which renewables-specific grid related</p>	<p>Obligation for network operator to develop network</p>
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rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

Die Verpflichtung zum Netzausbau/Netzanschluss muss auf absehbare Zeit erhalten bleiben bei gleichzeitiger Gewährleistung der Anrechenbarkeit auf die Netzentgelte. Auch müssen die rechtlichen und administrativen Rahmenbedingungen einen zügigen Netzausbau weiterhin ermöglichen. Die erneuerbaren Energien müssen früher oder später in die Verfahren der Systemsicherheit integriert werden. Die Festlegung von Abschaltreihenfolgen vor allem auf nationaler Ebene und ggf. einer verstärkten grenzüberschreitenden Koordinierung wären in diesem Zusammenhang erforderlich. (vgl. D. 1)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

Vorrangig sind vor allem Speicheroptionen, flexible back-up-Kapazitäten und Infrastruktur-/ Interkonnektorenausbau (vgl. A 2.) Der Begriff der „Systemintegration“ ist dabei weit zu verstehen: Bei einem EE-Anteil von mehr als 35% und ggf. 80% im Jahr 2050, insbesondere mit einem hohen Anteil volatiler Erzeugung, wird das (Markt-)System sich weiterentwickeln müssen. Eine vertiefte Analyse der Zusammenhänge und Wechselwirkungen ist noch erforderlich.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

N/A

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Other (please specify)

Please specify which other barriers -open reply-(optional)

Am entscheidendsten sind überwiegend Kosten bzw. Investitionshemmnisse wie z.B. Kosten für die Umstellung von Heizsystemen bzw. höhere Kosten der Technologien selbst (in dem Zusammenhang insbesondere auch Bestehen des Mieter-Vermieter-Dilemma) oder Nichtanerkennung bestimmter erneuerbarer Energien bzw. deren Nutzung im nationalen Förderrahmen (wie z.B. die Nichtanerkennung von Mitverbrennung von Biomasse im Rahmen des deutschen EEGs, fehlende Anerkennung von Bio-Erdgas in Erdgasbrennwertkesseln zur Erfüllung der Nutzungspflicht im Wärme-EEG).

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Durch die zukünftig hohen Energieeffizienzstandards für neue Gebäude und bei Renovierungen wird es grundsätzlich zu einer Reduzierung des Endenergieverbrauchs im Wärmesektor kommen. Diese Effizienzgewinne werden zusammen mit einer weiteren Elektrifizierung einen wesentlichen Beitrag zur Steigerung des Anteils erneuerbarer Energien an der Wärmeerzeugung leisten.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of standards - Lack of infrastructure

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

Belastbare harmonisierte Nachhaltigkeitskriterien sind für feste, flüssige und gasförmige auch nach 2020 erforderlich, um bei den begrenzt zur Verfügung stehenden Ressourcen und der Notwendigkeit von Importen weiterhin die Nachhaltigkeit und öffentliche Akzeptanz und damit auch die Sicherheit von Investitionen zu gewährleisten.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

N/A

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Ja, die Kooperation mit Drittstaaten, vor allem EU-Nachbarstaaten, sollte stärker gefördert werden, insbesondere über die Nutzung des entsprechenden flexiblen Kooperationsmechanismus der Erneuerbaren Richtlinie.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Grundsätzlich sollte der Ausbau von Stromnetzen in ganz Europa erfolgen. Allerdings könnte ggf. eine Fokussierung auf bestimmte Regionen im Hinblick auf die Beseitigung von Stromübertragungs-/Interkonnektorenkapazitäten zur Ermöglichung einer verstärkten

Kooperation mit Drittstaaten sinnvoll sein. Allerdings setzt dies eine genaue Analyse von Kosten und Nutzen nicht nur für einzelne Mitgliedstaaten voraus.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Grundsätzlich ist die Initiative sehr zu befürworten, da alle betroffenen Mitgliedstaaten, einschließlich der Regulatoren nach gemeinsamen Lösungen zu allen anfallenden Fragen im Zusammenhang mit dem Ausbau des Offshore-Grids in der Nordsee suchen. Die konkreten Ergebnisse bleiben allerdings noch abzuwarten. Auch sollte der Prozess sehr viel transparenter die betroffenen Stakeholder einbeziehen.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Insbesondere die technische Leistungsfähigkeit und wettbewerbsfähigen Kosten sowie die Systemintegration. In diesem Zusammenhang sollte ein besonderer Fokus auf der Förderung von innovativen und kosteneffizienten Speicherlösungen liegen.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the

N/A

existing measures have been and which have been the main drawbacks? -single choice reply-  
(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Martina Beitke, European Chemical Industry Council (Cefic), Email: mbe@cefic.be
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, an indicative and non-legally binding target at EU level is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Cefic agrees that RES will become increasingly important in the future EU energy mix. Therefore, the role of the market needs to be strengthened as by 2020 RES have to become economically viable and competitive production and policy changes are required to ensure that incentives become a lot more efficient and lead to market integration on common principles of existing MS cooperation. An indicative and non-legally binding target at EU level might help to improve investment predictability and improve coordination between MS. But, Cefic believes that the reduction of greenhouse gas emissions should be the key driver of any policy actions. But first and foremost market integration and cost-effectiveness must become the main principles of a future RES policy. Blanket targets can distort the intended objectives and create unintended consequences. Finally, carbon efficient production should be rewarded (including energy efficiency, use of low-carbon technologies and preventing carbon leakage). This would help to ensure an equal balance of the three main EU energy policy goals: sustainability, security of supply and competitiveness. In the end, energy efficiency and renewables are tools to achieve the goal of greenhouse gas emission reductions. Being tools, binding targets have no rational. Flexibility is key in order to find the most cost efficient solutions in all Member States and regions.

A.2. Are other policy elements necessary to	Enhanced focus on R&D to bring down the costs of renewables
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promote renewable energy post-2020, such as: technologies - Other (please specify)

-multiple choices reply-(optional)

Please specify which other policy elements? -open reply-(optional)

An increasing share of RES requires a well-functioning internal energy market. Cefic welcomes the EU's efforts to reach this goal by 2014 but also recognises many obstacles which still need to be overcome. We need more transparency, an equal access to the grid, harmonised rules and regulations and strong, independent regulators and TSOs. Secondly, the grid must eventually become more flexible in order to manage the increasing inflow of intermittent RES and in parallel backup capacity (gas) and baseload supply (fossil fuels). But the EU needs to ensure fair cost-allocation based on cost-efficiency criteria and with special recognition and treatment of sectors exposed to international competition (with respect to cumulative grid investment costs of approximately 1.5-2.2 trillion Euros between 2011 and 2050 according to the Energy Roadmap 2050). Certainly, infrastructure projects authorisation procedures should be facilitated in general, also in order to facilitate energy flows within the EU and across EU borders. However, public acceptance can only be achieved through information and cost transparency. Overall, Cefic believes that technological innovation, e.g. storage, is essential in order to meet future challenges such as intermittence and high costs. There is also room for improvement in terms of national political agendas towards a coherent strategy for the development of these technologies; this has an impact also on the European strategy and actions in this field.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial incentives for renewables should be designed to encourage technological excellence and high economic efficiency and therefore be clearly limited in time. Experience in the past has shown that measures to promote renewables have in many cases not been cost-effective although public support schemes for renewables should aim at a competitive energy market through integrating RES into the market. Support schemes should only encourage the most productive and efficient technologies in optimum locations with a clear phase out path to become competitive. The main target of financial support through R&D must be to bridge the gap between demonstration projects and commercialisation in order to bring the benefit of research, development and demonstration to the market ('kick-start' funding). Financial support will also be necessary for industry to overcome the inherent higher costs (compared to gas for example) of RES use (consistency of product, reliability of equipment, risk of supply disruption etc.).

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Financial support should address the aim to bring new technologies to the market and therefore be phased out over time. Therefore, support required beyond 2020 for existing installations is questionable since this would constitute long-term public funding dependence outside the market. Mature renewable energy technologies need to be integrated into the regular energy market. The support scheme should be a transparent (so without indirect subsidies) EU-wide approach in order to urge optimisation in terms of geographical development of the different technologies. Nevertheless, this doesn't address the global competitive issue. Therefore, well balanced cost allocation should be applied within Europe with equally high exemptions for energy intensive industries in order to preserve a level-playing field in Europe and to maintain the international competitiveness of the European Chemical industry.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	N/A
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
<p>The support level and support period should be put in place EU-wide taking into account the best practices. Benchmark values therefore determine the maximum support level per technology in order to reach competitiveness and market integration. In this way technologies will develop in a cost-efficient way in Europe which will reduce the overall cost for the final consumers presuming that market integration is realised. This can only be achieved with an EU-wide support scheme (no MS targets) based on cost-efficient potentials (timely limited) and financial contribution of all Member States. A convergence of national support schemes should be achieved soon as those are in line with the internal market approach by delivering a level-playing field for investment in renewable energy production and deploying RES most cost-efficiently. Such a convergence should result in temporary funding of RES where it is most cost-efficient (EU-wide optimisation: solar where the sun is shining, wind turbines where there is wind, etc.) and economically feasible in the mid-term. Ultimately, well-balanced cost allocation is essential leading towards harmonised compensation for hardship cases, in order to provide a level playing field in Europe and to maintain the chemical industry's international competitiveness.</p>	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
Support for green electricity and green heat and cooling should be based on cost efficient potentials to ensure an efficient use of the resources. (In addition see also the comment on point 4 above).	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
It is essential to continue building a real European internal market for all energy sources, including renewable as well as conventional energies. The establishment of a comprehensive European internal energy market is a critical factor to ensure competitiveness and security of supply. Overall implementation of the European energy liberalization package is currently poor. The liberalization packages have not been adequately implemented in several EU Member States, which represents a serious obstacle in providing competitive energy supplies, delivering quality services and realising responsible development strategies.	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
Support schemes are – per definition – distorting. However, in our view, some support schemes are more distorting than others, particularly when the design of the support scheme continuously excludes RES from the power market. Thus, a speedy integration of the renewable energy sources into the “normal” energy market would be an efficient way to diminish market distortion. In addition, the sheer variety of existing support mechanisms within the internal market creates distortions, impedes competition between renewable energies, most feasible locations and between producers and creates barriers for cross-border trade and competition. The promotion of competition on the internal energy market thus calls for enhancing the convergence of national support schemes as soon as possible.	
<b>C. ADMINISTRATIVE PROCEDURES</b>	

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Technological limitations (low efficiencies, also limited space, amount of agricultural land e.g. for biomass) are prohibiting an excessive growth of RES. Such limitations need to be overcome through technology breakthroughs since otherwise the society would have to accept long-term dependence on subsidies for inefficient technologies. Moreover, lengthy and complex administrative procedures create uncertainty in the state of project development and create avoidable additional costs and risks. Providing a standardised and transparent process with one point of contact and a clear timeline would mitigate this risk. In this respect the Commission's proposal for "trans-European guidelines on energy infrastructure" provides a sound basis for further discussions. Technical specifications should be harmonised and acknowledged across the EU to make use of best available technical knowledge and best practice. 27 different national technical specifications also mean cause huge, additional costs. Therefore, a push for harmonisation offers a significant potential of cost reduction. Administrative procedures should allow for some form of pre-authorisation to avoid penalising industries working to long term investment cycles and major (and therefore most likely the most significant GHG gains) technological developments. Moreover, the ability to address the essential issue of public acceptance when it comes to the construction of new energy infrastructure is essential.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

We agree that rules need to be strengthened to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other. Also, the EC should push for more harmonisation on EU level or mutual recognition. Furthermore, clear predictability for temporary support will encourage investment that offers economic feasibility perspectives long-term. Public funding should be banned for long-term, uncompetitive RES.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Existing operations such as industrial CHP must not be disadvantaged through RES policies.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Priority or guaranteed access - None of the above

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -

consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Other (please specify)
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Please specify which other measures -open reply-(optional)

Sufficient flexible back-up capacity will be required but decision on when and how to contract sufficient back-up capacity needs should be left the TSO. Generally, sectors exposed to international competition must not be burdened with EU RES extra costs.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

We agree that demand response will play a role in future and that our industry might be able to contribute in this area. However, we also need to keep in mind that the main purpose of a manufacturing industry must remain manufacturing. We would welcome a discussion!

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	N/A
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Other (please specify)
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Please specify which other barriers -open reply-(optional)

The cost of building plant is significant and generally RES have other additional costs (heat output is less controllable). Eventually, there

is significantly greater risk associated with RES, especially for industries requiring continuous plant operation. Prioritising the production of green electricity through support systems is a barrier for the development of green energy in heating and cooling. A consistent policy on the renewable energy mix based on cost efficient potentials of energy efficiency, renewable electricity and renewable heat is therefore required and regulatory harmonisation to reduce the distortion between the deployment for green electricity toward green heat and cooling.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

Renewables can play an important role in the supply of heating and cooling. A wide range of technologies is already available for renewable based heating and cooling such as heat pumps, solar thermal, geothermal technologies. Overall, experiences show that the production of biofuels from biomass needs to be carefully examined with regard to its efficiency. In addition, biomass production does have an impact on food production as it might lead to competition in land use between food and energy. However, this whole discussion is a rather complex matter which is difficult to be addressed by broad policy decisions alone as renewable raw materials are for instance also used for the production of medicine and therefore cannot be compared with fuel/energy use (and these substances cannot be produced from waste). However, in general R&D in waste utilisation (both biomass and other waste) may be stimulated in future as those technologies are economically feasible. Combined heat and power generation (CHP) is also an important option for using renewable sources for heating and cooling purposes, as this well-proven technology provides high-efficiency – , where economically feasible. This whole range of technologies must be taken into account for achieving future goals.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Innovation in storage and any other technology that reduces the impact of intermittence of RES or provides base load, including waste heat, is highly promising for the further development of renewable energy and the integration in the energy market. So, the key for promoting renewable energy in heating and cooling and enhancing energy efficiency lies in the cost-efficient support for reuse of waste heat.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

The Commission should propose harmonised and binding sustainability criteria for the use of solid and gaseous energetic biomass use.

Harmonised sustainability criteria are essential to ensure that biomass used as energy source is environmentally, economically and socially sustainable. Attention should be paid to the aspect of competition for raw material use (such as for electricity, heat, fuels, use as material, food). Promotion of renewable energy sources such as biomass should not create market distortions and result in changes in the availability or price of raw materials used for example by the chemical industry. For instance, the chemicals industry use cultivated raw materials from agricultural and forestry products such as meat, plants and timber and their derivatives such as fats and oils, cellulose, starch, sugar and fibre in their production. Pure combustion removes valuable raw materials from a production chain which could have been used as material in manufacturing industry with much higher added value. Substituting fossil fuel as a feedstock for current processes which use renewables as a feedstock is not ecologically ideal (while the use of fossil fuel as a feedstock might be appropriate in other processes, especially when combined with recycling). Overall, this selection process should be driven by market and technology.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

A convergence of national support schemes towards a more harmonised cost-efficient, temporary scheme should be achieved as soon as possible. Also, the production of RES should be located where it is most cost-efficient and effective (solar in countries where there is sun etc).

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

With view to security of supply, the level of development of green energy production outside Europe should be carefully evaluated. Cooperation should be based on free trade and abolishment of trade barriers for instance take into account sustainability criteria for biofuels.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Investments in Member States need to be based on the real potentials of RES in certain Member States. Most importantly, the EC must carefully examine the potential of the grid for an effective use of wind energy in Europe. Ultimately, the main goal of a differentiated investment approach is to achieve a reduction of the overall generation and transport costs to the final consumers. Moreover, to increase the security of supply and to enhance the internal electricity market in Europe the reinforcements of inter-connections are a prerequisite.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

We agree that agreements between MS and third countries are crucial. A European Renewable Energy Strategy must be seen as

integrated element of the overall EU energy policy, including the external dimension. In this respect, the EU needs to strengthen its ability to dialogue with one voice with (potential) key partners and third countries in general. Where possible, dialogues should promote reciprocal investment and lead to more trade liberalisation and security of supply

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Initiatives like "Desertec" should be better evaluated and the results broadly communicated in order to better understand the cost-performance in relation to other policy measures (internal and external).

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Do you think such cooperation should be further fostered? Yes What benefits do you think could arise from it? Investments in the grid could lead to a decrease of costs for offshore wind and therefore help to better integrate renewables into the existing electricity market. Do you consider that this experience could be generalised and applied elsewhere? Yes, based on potentials, grids could be reinforced in order to decrease the costs of RES and to enhance the integration in the electricity market by reaching competitiveness faster.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

In general the availability of resources in sufficient quantity and quality is going to be a key challenge. Furthermore, due to the highly intermittent character of RES storage and infrastructure innovation are of course key challenges as well.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Looking ahead, Cefic believes that support for large scale industrial innovation demonstrations is essential. Moreover, innovation stimulation at the relevant stages of the value chain need to be ensured (i.e. from material producer to end-user product) in order to support technology production in Europe and also leave room for breakthroughs / technology leapfrogs.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

From an industrial (consumers) point of view, energy efficiency remains in the focus in terms of costs, legislation and maintaining competitiveness. Therefore, the promotion of the reuse of waste heat by existing technologies should be continued. With view to 2050 the key priorities will be in research and innovation in waste heat reuse as well as in storage. Also, research and innovation in alternative

raw materials is a priority for industry beyond 2020.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply- (optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Some progress has been achieved in raising the use of RES e.g. in transport fuels. However, to avoid drawbacks developments need to be properly scientifically evaluated, based on a life cycle approach. Overall, the success of the support mechanism has resulted in a substantial volume increase of the RES share. But this is accompanied by a high cost increase for the final consumer, impacting both the intra- European and the international competitiveness of energy intensive industries. The historical cost of support will be a burden for the next 20 years which puts a mortgage on the competitiveness of the economy in some MS and on the European economy in general. The highly distorting effect in some MS leading to inter-European competitiveness distortions is due to lack of EU harmonisation. Moreover, the support mechanisms have been highly beneficial for the deployment of production capacity of green technologies in Asian countries instead of promoting the European economy which is an additional distorting effect of the RES-support schemes of some EU-member states. To sum it up, Europe may have become a leader in renewable technologies inventions but has not managed to secure the full deployment of the innovation chain i.e. bringing the idea/invention to the market / its commercialisation on European grounds. These measures have not succeeded either in building a European critical mass for the production of these technologies at large scale in Europe.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes, support for the development of a technology should decrease in time based on a foreseen technological evolution in order to promote market integration and prevent distortions on the electricity market. We assume that in 2020 the technologies deployed now will be mature and require minimum or no support.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Guillaume Mascarin : guillaume.mascarin@ufe-electricite.fr ; Union Française de l'Electricité

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply- (optional)

France

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case

with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

On behalf of the French Electricity industry, the Union Française de l'Electricité (UFE) calls for the establishment of a low-carbon and sustainable energy system by 2050 and beyond. To this end, we strongly believe that the use of RES technologies will be mainly driven by an appropriate CO2 signal. We also underline the lack of consistency regarding the three simultaneous targets for renewables, efficiency measures and GHG reduction. UFE considers that each ambition is relevant. Nevertheless GHG target should be in priority addressed through the ETS mechanism. As a consequence this mechanism should be strengthened. In that respect we believe that a 2030 binding carbon target must be put in place, beyond the 2020 in order to create a credible and efficient carbon signal.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Other (please specify)

Please specify which other policy elements? -open reply-(optional)

- Long term predictability of the regulatory framework. - A well-functioning and integrated energy market. Flexibility on both the demand and supply side should be promoted through an efficient market design which would provide a level plain field to all possible contributors (generation, demand side participation, storage). Interconnections should be strengthened; priorities of investment in new lines should be based on the cost efficiency principle. - New market tools to foster investments in back-up (as well as peak-load) new generation plants. The current so-called "energy only" markets don't deliver the sufficient economic signal for those flexible plants to recover their costs, although they're crucial to deal with intermittency and to secure the system. Therefore, it is important that the EC makes studies before implementing capacity remuneration mechanism. - It is necessary that RES generators are incentivized progressively to enter the wholesale market with the objective to become competitive without subsidies: for those non mature RES technologies which after 2020 will still need to rely on aids and strong R&D, support systems should be maintained, subsidies being monitored with the evolution of LCOE of the given technology. - The EU and MS's ability to address the essential issue of public acceptance regarding new generation plants as well as network infrastructures.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

A number of RES technologies are becoming more cost competitive and it should be possible to integrate them into the market progressively without subsidies. This means that support schemes should be progressively eliminated during a phasing-out period when

RES have gone down their learning curve and have reached parity with conventional generation. However, for RES technologies that are not sufficiently mature, as well as for emerging technologies that should be supported at R&D stage, we believe that the EU should promote a coordinated approach on support schemes and cross-border cooperation projects. In the medium/long term, the EU should adopt a more cost-efficient approach for those technologies that still rely on support in order to develop projects at least cost.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Three main issues should be tackled: a) Lack of visibility which impedes investments: we do need a clear and predictable framework for new installations and guarantees that conditions for existing installations will not change retroactively. b) Length and complexity of administrative procedures relating to authorization/certification/licensing, which create to administrative burdens and barriers to investment. c) The public acceptance of infrastructure is a crucial issue that must be addressed by the Commission as well as the national and local public authorities. Administrative and legal tools as well as political commitment are urgently needed. In this respect, the proposal of regulation COM(2011)658 is not sufficient to address this problem satisfactorily.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

a) Lack of visibility which impedes investments: There should also be a sufficient degree of investment security during the project development phase, at least starting from the time of financial closure or as soon as the permit is granted (in some countries, RES generators only have certainty about the level of support at the moment that the installations is taken into operation). b) Length and complexity of administrative procedures relating to authorization/certification/licensing: we support the meaning of the proposals made by the European Commission on its "Energy infrastructures guidelines" COM(2011)658. We believe that this kind of approach should be extended beyond the scope of Trans-European projects. We believe that this kind of approach should be extended beyond the scope of Trans-European projects. c) Public acceptance of infrastructure: Administrative and legal tools as well as political commitment are urgently needed. In this respect, the proposal of regulation COM(2011)658 is not sufficient to address this problem satisfactorily. Any policy response shall be made in close cooperation with stakeholders and shall take into consideration the need for cost-efficient solutions

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following

national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

As a matter of principle, the UFE calls for equal treatment taking into account technical difficulties for RES and other generators regarding the curtailment regime and balancing issues which are likely to become more and more necessary given their increasing share in generation mix. In fact it would be highly beneficial if all mature renewable technologies are involved in balancing mechanism (i.e. face incentives to ensure they deliver the volumes of generation they have said they will deliver and face the costs of imbalance if this is not the case). Fostering accountability of RES generators would minimize the volume of imbalances in Europe and reduce the associated cost, as well as providing very strong incentives to invest in technologies (e.g. better forecasting tools) to minimize imbalance risk.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

Cf. Answer to question D.1, Curtailment and Balancing are crucial issues regarding the sustainability of the system, as the RES share in European energy mixes is likely to increase significantly in the following years

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

1) Ensuring an efficient back-up and sufficient reserve for RES production is a priority. To do so, it is imperative to foster efficient investments in flexible power plants and large storage capacities. The UFE invite the European Commission to study with relevant stakeholders the possibility to introduce new market based capacity remuneration mechanisms. 2) Demand-response technologies are also crucial to increase the flexibility of the system. Regarding smart grids and smart meters some questions remain on the table however, as: how the costs will be recovered? Who will be in charge of those grids/devices when operational?... 3) We also do need new monitoring tools to balance RES forecast errors. This issue can be addressed by cross-border integration of day-ahead and intraday markets which increases their liquidity and by setting gate-closure as close as possible to real-time and compatible with network security, as envisaged by the target model for the internal market to be accomplished by 2014. This allows short-term RES forecast updates to be incorporated in the market and enables market participants to fine-tune their portfolios. Imbalances that persist at real-time should be addressed via ancillary services markets (frequency control, etc.). These markets should be integrated with neighboring countries in a way compatible with network security and opened to further participants including storage facilities and the demand-side as well as RES generators.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

Power generation from mature RES technologies should gradually be more and more involved in balancing mechanism. Power from RES sources should participate in balancing mechanism so as to reward accurate anticipation of intermittent generation.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

Flexibility is obtained by some additional backup capacities and demand side management that may not be naturally rewarded in the current energy market organization. That is the reason why the European Commission should study with relevant stakeholders how market-based Capacity Remuneration Mechanisms could be implemented in order to ensure that enough generation investments in conventional generation can be made.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Friends of the Earth Europe (FoEE)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Yes, Europe needs an ambitious 2030 renewables target. But bioenergy can only play a limited role in meeting it. FoEE would not support a target that significantly increases use of biomass; nor any targets or support for the use of agrofuels - this would undermine the objective to reduce GHG emissions and boost clean renewable technologies. The continuous and massive deployment of renewables over the next 40 years is key to reduce Europe's GHG emissions by 80-95% as agreed by the European Council. New 2030 targets will

give investment security for the renewables industry and allow mid-long term planning for grid and infrastructure development. A future European wide 2030 renewables target should include mandatory national level targets, as well as intermediate targets every two years up to 2030 in line with a trajectory ensuring a gradual achievement of the overall target. However, bioenergy cannot be counted as a low-carbon renewable technology, because it emits CO<sub>2</sub> when used which can take decades to recover and at a cost of foregone carbon sequestration – currently unaccounted for in European legislation. It also uses huge land resources, threatening biodiversity, deforestation, land rights and food security. Its use should therefore be limited, though some biomass will be necessary on local scales for heating or combined heat & power. FoEE opposes the use of agrofuels and sectoral targets for transport, instead calling for a modal shift to reduce transport fuel use.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

Increased energy savings, and lower consumption levels, will impact directly on primary energy production. The first requires a strong energy efficiency directive with a binding 20% energy savings target by 2020, obligations for power companies to invest in energy efficiency measures and policies to ensure in-depth renovation of buildings and households. The 2020 energy savings target needs to be complemented by a 2030 target. In transport, more measures are needed to reduce energy consumption, including car fuel efficiency standards and better investment in public transport infrastructure. Secondly, to reduce Europe's resource use, the Commission should start measuring the overall amount of resources Europe uses of land, carbon, water and minerals, in order to agree resource reduction targets by 2013.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

So long as fossil fuels and nuclear are subsidised, renewables will need financial support to avoid market distortion. According to the IEA (WEO, 2011) fossil-fuel consumption subsidies were \$409 billion in 2010 whereas renewable-energy subsidies were only \$66 billion in 2010. Renewable energy is subsidised in order to compete in the market, increase their volume and develop the technology so that the subsidies become unnecessary with the development. Eliminating fossil-fuel subsidies is necessary to bring economic and environmental benefits. Phasing out fossil-fuel subsidies by 2020 would cut primary energy demand 5%.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Accelerate convergence of national support schemes</p>
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>N/A</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>Yes (please explain how this could be achieved and which support structure you consider most suitable)</p>

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

There should be an EU wide obligation for Member States to introduce support schemes for renewable technologies. Member States must have full flexibility in choosing which ones, allowing them to implement the best possible system according to the national context. The current RES directive implies cooperation between Member States and this should be further developed while maximising focus in the first place on domestic development of renewables. However there is a significant difference in energy market prices across Europe, so to create a functioning EU wide market the financial level of the support scheme (prices) should be fixed by EU guidelines. The convergence of national support schemes should focus primarily on grid access rules and permitting procedures, including e.g. the continued priority access for variable renewable energy sources.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

There should be a differentiated approach regarding support schemes for the electricity, heating and cooling and transport sectors. Due to problems of land use change, carbon emissions, abuse of land rights, and food security, agrofuels - which are predominantly relied upon in the transport sector – should receive no support. FoEE does not support a sectoral target for transport, particularly where, as currently, it is based on agrofuels. Instead financial support and targets based on GHG emissions should encourage modal shift in transport use – moving from individual transport to public transport, and from road to rail whilst encouraging more cycling and walking; transport must also be made more efficient by reducing fuel consumption and switching to electric cars running on renewable electricity. Similarly, support schemes for biomass should be applied very cautiously because of limited available sustainable supply and carbon balance concerns. Overall biomass use must be limited, and directed only to the most efficient uses - e.g. small local scale combined heat and power. It should be recognised that growing electrification based on renewables will progressively supply the transport, heating and cooling sectors. There should be very strong support schemes for renewable technologies based on wind, solar, geothermal, small hydro, wave and tidal mainly feeding into the electricity sector and partly into heating and cooling.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

- Lengthy permitting procedures; - Very different approaches from one country to another.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	<p>Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime</p>
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>Grid connection rules have been developed to fit a nuclear and fossil fuel based power system. The requirements of a renewables based system are not the same. Cost sharing rules are often not transparent. Balancing rules do not sufficiently reflect the needs and capabilities of renewables.</p>	
<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment</p>
<p>D.2.1. Please explain why -open reply-(optional)</p>	
<p>Historically the power grid has been created to accommodate centralised power plants. This needs to be changed if a mixture of decentralised locally produced renewables alongside large scale concentrated renewables are to be integrated.</p>	
<p>D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)</p>	<p>Increase flexible back-up capacity (capacity payments ...) - Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs</p>

## E. MARKET INTEGRATION

<p>E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)</p>	<p>Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid</p>
<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	<p>Favourable regulatory treatment of storage operators</p>
<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>Electricity markets should evolve into energy services markets, earning revenues from more than just electricity</p>

## F. RENEWABLES IN HEATING AND COOLING

<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	<p>Building regulations etc. - Other (please specify)</p>
<p>Please specify which other barriers -open reply-(optional)</p>	

The continued high usage of energy in buildings is a barrier and as a precondition energy consumption needs to be reduced. Therefore a 20% binding energy efficiency target by 2020 should be adopted, with further targets in 2030. Given the limited availability of sustainable biomass, this resource can only play a small role in energy supply overall – it's most efficient use can be in heating and cooling, e.g. through combined heat and power, but quantities must be limited to sustainable levels. Solar thermal and geothermal are other possible resources. Moreover increasing electrification across the whole energy system will replace large parts of the heating sector by renewables-based electricity.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

Stockholm Environment Institute produced a mitigation scenario for FoEE showing that 40% domestic emission reductions can be achieved by 2020 and close to 100% by 2050. The scenario assumes no use of CCS, rapid phase out of fossil fuels and nuclear as well as only limited availability of biomass. Coal is phased out by 2035 and nuclear by 2045. The scenario adopts an overall strategy of electrification whereby localised combustion of fossil fuels is directly eliminated in favour of direct consumption of electricity or heat. In the building sector heat from CHP systems and electric powered ground source heat pumps provide most remaining heating and cooling loads after massive efforts to improve building shell energy efficiency. <http://www.sei-international.org/publications?pid=1318> Support for renewable heating and technologies should encourage the compatibility with the electricity sector. For example, geothermal heat pumps and CHP plants should be driven by the availability of surplus power and demand on the electricity market. For reasons mentioned above, an increase in, and a pathway that relies heavily on, biomass is inappropriate for increasing renewable energy use in heating and cooling – this would deplete biomass resources to unsustainable levels, and cause large carbon emissions. Where limited biomass is used, it should be restricted to appliances that have the highest efficiency standards, e.g. modern biomass stoves and biomass CHP.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Enhancing energy efficiency in this sector is essential and of utmost priority. Friends of the Earth Europe's mitigation scenario assumes that strong energy efficiency and savings measures are adopted combined with increasing amounts of renewables-based electricity. Between 2020 and 2030 total primary energy requirements are reduced by 27%. In the housing sector FoEE's mitigation scenario assumes that 90% of the entire existing building stock will be retrofitted to close to "passive house" standard by 2020. In addition, increased energy efficiency reduces the cost of a fully renewable heat supply.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Pace of technology development - Lack of infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

Transport is one of the sectors experiencing rising GHG emissions and fuel consumption, partly as a result of current EU renewables policy. This trend must be reversed urgently, and will require measures beyond the uptake of renewable energy – better infrastructure and technology development is needed, with efficiency improvements through electrification as well as modal shift away from private road and air, toward vehicles, trains, and other public transport powered by renewable electricity. Because of their considerable negative environmental and social impacts, industrial agrofuels have no place in reducing transport GHG emissions – particularly where they rely on crops from food or use land. Evidence shows that large scale production of agrofuels drives: - Land use change with often negative GHG savings (<http://www.theicct.org/ifpri-mirage-2011-modeling-indirect-land-use-change>) causing biodiversity loss and deforestation; - Land grabs: 40% of large land acquisitions for biofuels (International Land Coalition), abusing land rights; - Food insecurity: agrofuels compete with other crops for water and land and drive food price rises and volatility; IMF, WFP etc. advised G20 governments to remove agrofuel subsidies and mandates to reduce hunger. Current agrofuels cannot sustainably be produced to fulfil fuel demand and should not be supported in EU policy or targets. Over-reliance on agrofuels is a large barrier to uptake of clean renewable energies in transport.

G.2. What sectors of transport do you consider to be the most promising for further increasing

Road for passengers - Rail

the share of renewable energy? -multiple choices

reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

The most effective measures to reduce GHG emissions from transport are those that reduce the demand for fuel and energy – and this must be the overriding objective. A modal shift to reduce car use; increase public transport, cycling, walking; switch to rail and cars running on renewable electricity; and increase car fuel efficiency (through car design standards and speed limits) is needed. Agrofuels using land, because of their unsustainable impacts and limits of sustainable supply, should have no place in targets. Sectoral targets for renewable energy in transport, especially where they rely on agrofuel use, are inappropriate; instead GHG reduction targets are needed to drive reduction in energy use and modal shift. As part of GHG targets, European policies should encourage the use of renewable electricity for transport – this is most appropriate for public transportation, rail, and electric cars. For the latter, building infrastructure must accompany the uptake of renewables on the grid to incentivise uptake and ensure smart charging that can help balance the renewable electricity system. Shipping measures must focus on engine efficiency and reducing speeds to cut energy use to cut GHG. Currently there are no sustainable solutions for using renewable energy in air travel – agrofuels that use food or land are unsustainable and increase GHG emissions; to cut aviation emissions, measures to increase efficiency, switch to rail, and reduce air travel should be prioritised.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

The primary sustainability measure for biomass must be to reduce it to sustainable quantities and ensure that it is used in the most efficient way – this means limiting demand to levels that can be sustainably produced, and restricting use to local production for high efficiency appliances. Given growing competition for biomass resources, use must be guided by a hierarchy of uses. Correct carbon accounting must be introduced – including accounting for carbon debt and foregone carbon sequestration (also in the ETS - biomass is not 'carbon neutral'). Agrofuels should not be supported in renewable energy targets. Some of the biggest impacts cannot be solved by sustainability criteria, e.g. indirect impacts. The only sustainability measure is to reduce the levels in the first place by removing mandatory targets. The current criteria in the RES Directive are limited and weak, contributing little to the sustainability of agrofuels. EU policy has therefore led to the development of an unsustainable industry. E.g.: - definitions of important carbon stores and high biodiversity habitats are insufficient, with a late cut-off date; - a total absence of social sustainability criteria in relation to food security, access to land and water, human rights, and right to free prior and informed consent; - no agriculture criteria to support sustainably produced crops; no ban on GMO crops; - full GHG accounting for agrofuels including indirect land use change factors is still not published.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with developing countries is essential in order to mitigate negative social and environmental impacts of biomass and agrifuels production and to promote access to energy and income for the poor in developing countries. Imports must not substitute for EU efforts, nor result in the EU exporting ecological impacts and carbon emissions to third countries.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Investments in electricity networks should be prioritised for the intra EU development of renewables and the transfer of solar electricity from the South to the North of Europe.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

As a priority, the EU should exploit its domestic renewable energy potential. Some complementary imports may play a role in the long-term.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Regarding bioenergy, the SET plan should focus specifically on sustainable amounts of bioenergy available in Europe after having done a proper assessment of needs in other non energy sectors such as paper and pulp industry, construction etc.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to

2050? -open reply-(optional)

Regarding wind and solar, technologies to deal with variability of renewable resources and storage capacity should be further developed.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Bouvarel Luc, Forestiers Privés de France  
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2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

France

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate - Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The forest organisations (CEPF) wishes to highlight the key role of biomass mobilisation, especially wood chain and forest operations

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Better financing possibilities - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

introduction of specific tariff headings for biomass used in electricity production in combination with heating production networks. appropriate Community management of wood chipping for energy, notably in the framework of import scheme and the implementation of a fixed quota that the European Commission guarantee wood chipping imported into EU do not receive public subsidies twice.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

the financial support must take in account the most effective productions at the low level in carbon production, the most dynamic rural projects development

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)</p>
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Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

the States must ensure a high price for electricity produced from wood chipping cogeneration plants because they contribute in a decentralised manner to the security of energy supply at local level. this helps to reduce the EU's energy dependency and greenhouse gases as the combustion of wood in form of chips and straw in modern heating plants does not emit as much CO2 as natural degradation.

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with EU-wide benchmark values for support level per technology</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>Yes (please explain how this could be achieved and which support structure you consider most suitable)</p>
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

it necessary to reduce difference between the different sectors (electricity, heating and cooling, transport), direct or indirect tax incentives should take Community preference into account energy derived from forest biomass should not be subject to a carbon tax because the resulting CO2 emissions following combustion have been shown to have a neutral impact

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	<p>Member States need to open their support schemes to renewable generation from other Member States</p>
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Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)  
 -open reply-(optional)

it seemed necessary to push convergence of national schemes

<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>N/A</p>
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## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications</p>
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C.1.1. Please provide explanations and specific examples where available  
 -open reply-(optional)

member State must be required to ensure that the administrative procedures are as short as possible specially those involved in setting up plants to produce energy from renewable sources. it must not be discrimination to access electricity wit regard to other renewable energy sources specially biomass.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Push for more standardisation and harmonisation on EU level or mutual recognition</p>
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	<p>None of the above</p>
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>
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Please specify which other rules -open reply-(optional)

it must be given a priority or guaranteed access to raw material coming from EU

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Accelerate infrastructure development and interconnection

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Lack of public support

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

no comment

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Pace of technology development - Lack of standards - Lack of infrastructure

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail

G.2.1. Please explain your answer -open reply-(optional)

this transport sector specially for goods bring benefit to reduce pollution

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing criteria are already burdensome to implement - No, the existing binding sustainability criteria are sufficient
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H.1.1. Please explain -open reply-(optional)

European forests are managed in accordance with the Sustainable Forest Management scheme, based on criteria and indicators from the Ministerial Conference on the Protection of Forests in Europe (MCPFE). The existing sustainability schemes for forest production which include biomass one, within the EU are sufficient and there is no need for any additional administrative burden. However, sustainability schemes equalling those within the EU should be requested for forest produced as biomass in third countries.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	No (please specify how they should be amended or which elements added)
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Please specify how they should be amended or which elements added

-open reply-(optional)

It might be interesting to promote cooperation between different regions in the EU on these subjects

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	No, the EU should first focus on developing its own renewable potential
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I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	N/A
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I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Agreements between the EU and third countries
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

It might be interesting to promote such concertations and partner should be able to answer to the demands which might appear

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Yes it could be beneficial for different regions in the EU to benefit from the experience

## J. TECHNOLOGY DEVELOPMENT

<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?</p> <p>-multiple choices reply-(optional)</p>	<p>Technology performance and cost-competitiveness - Industrial manufacturing and supply chain</p>
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>no comment</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?</p> <p>-open reply-(optional)</p>	
<p>no comment</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)</p>	<p>N/A</p>
<p>J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?</p> <p>-open reply-(optional)</p>	
<p>no comment</p>	

<h2>IDENTIFICATION</h2>	
<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>Stephan Kolb, Statkraft AS; stephan.kolb@statkraft.com</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>Other (please specify)</p>
<p>Which other country? -open reply-(optional)</p>	<p>Norway</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Answer: none of the options can be selected, as, at this stage, the future general policy architecture is not sufficiently robust. Ideally a global carbon regime would set a price on emissions, change relative prices and thereby improve RES competitiveness, and EU ETS could be the only policy system needed to reduce emissions and promote RES. But it is unlikely that Europe and the world agree on a tighter ETS system in time to ensure a carbon price high enough to give all the right signals to reach Europe's 2050 target. Possible new targets for RES must be seen in parallel with new targets for CO<sub>2</sub>-reductions and energy efficiency. Whether new RES targets should be mandatory or indicative should also be seen in connection with energy demand forecasts, the phase out of fossil fuel and nuclear based generation and the need for new/upgraded transmission capacity, including interconnectors. The need for more market integration and new design is also a part of this picture. Introduction of any type of RES target without a balanced approach and a socio-economic perspective could undermine the development of the European power market and the RES industry. RES targets without considering targets for CO<sub>2</sub>-reductions and energy efficiency at the same time would not ensure an efficient and timely achievement of Europe's targets. Statkraft favors a strong EU ETS regime. Possible new RES targets must be accompanied by a cost effective and balanced European energy and market approach.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

The following minimum set of elements is necessary: Facilitation policies aiming at integration of large-scale wind power into grids. This element is further detailed in the response to Section D. Other: - A realistic assessment of the potential of RES in the field of hydropower. The potential to further develop hydropower in Europe is underestimated, leading to wrong projections for the most important renewable and flexible energy resource in Europe. It is estimated that (World Atlas on Hydropower 2010, IPCC Special Report on RES, 2011 ) that EU Member States have only developed about 50 % of the technically feasible hydropower potential, while in other areas such as the Balkans, Turkey and Russia only about 25 % of the technically feasible hydropower potential has been developed. This may result in missed opportunities, as the focus, including for financial support, is often on small-scale hydropower development only. In general, as asserted by the IPCC, the "quality" of a hydropower project depends not on its size, but on a rigorous sustainability assessment of its environmental, social and economic impacts. - Market design In order to make efficient use of Europe's RES potential, the regulatory framework should stipulate a pan-European energy market covering the EU and its neighbouring countries.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Post 2020 financial support should primarily be needed for technologies which are in R&D or pilot phases. Off-shore wind power generation with its huge potential for large-scale deployment is not mature and far from being cost-competitive vis-à-vis conventional power generation, in particular under the current low carbon price condition. On the other hand, installing off-shore wind power capacity

is linked to very large upfront investments, and profitability of investments depends on availability of incentives/financial support. In this context, the relation to the flexible mechanisms in the RES directive should be further elaborated to enhance confidence of investors, for example with partners within the Energy Community.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Other: conflicts between the promotion of RES and the Water Framework Directive, as the national implementation may lead to a relatively high reduction of the existing renewable energy production from hydropower.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Other: - Strengthen rules to intrude more directly into MS procedures in terms of roles of different actors (e.g. one-stop-shop) - Push for more standardization and harmonization on EU level or mutual recognition And: increase harmonization between energy and water

legislation, as experiences from Norway and Iceland demonstrate that a one-stop-shop to administrate water and energy resource management through one single public directorate/agency provides workable solutions which are also easing the complexity of authorization/licensing and certification issues.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The issues mentioned in this question can be seen as “challenges” rather than “obstacles”. For all these issues, we believe that renewable generation should be treated equally to conventional generation taking into account other framework conditions for renewables as financial support schemes. Only in this way, hidden subsidies and market distortions can be avoided.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

None of the above

D.2.1. Please explain why -open reply-(optional)

Obligation for network operator to develop network: This is an existing obligation. Network Operators already have the obligation to expand the network whenever necessary to facilitate connection of new network users and to facilitate the market. We see no reason to develop renewable-specific rules. Specific arrangements may have to be developed for offshore grid connections and for establishing offshore grids. Priority or guaranteed access: We see no reason to develop renewable-specific rules for priority access. Network congestions will always occur and need to be managed as far as possible in a clear and market based way, irrespective of whether such congestions are partially or even fully caused by a large in-feed from renewable generation. Such congestion management schemes will have to be defined to allow for an efficient dispatch of all power plants and as renewable generation will normally have very low variable costs it is by definition that renewable generation will have priority access. Priority dispatch and obligation on TSO to counteract curtailment: Same as previous issue.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

Notes: Capacity mechanisms/payments/markets are not necessary and will only result in market distortions, as energy-only markets have so far been well functioning. This is based on the assumptions that wholesale prices will not be regulated (e.g. capped in cases of price spikes due to temporary scarcity / tight demand-supply balance) Accelerated development of interconnectors between continental Europe/UK and Norway is crucial. Norway with approx. 50% of Europe’s hydro reservoirs could provide huge flexibility, that can be further enlarged by additional generating capacity and by installing pump capacity. This is a cost efficient source of flexibility, which can serve the market for several days when the wind is not blowing or the sun is not shining. Increased availability of storage is an important source of flexibility. The market should develop new storage, and this should not be brought under the regulated domain (e.g. as a TSO activity) due to market distortions. The treatment of new and existing storage as a specific category of grid user can be improved. Storage is often treated as both a consumer and generator, e.g. resulting in high transmission tariffs to be paid by storage (cf. the discussions in Germany). Enable RES generators to offer balancing services to TSOs: RES generation should be treated equally to conventional generation to offer balancing services, allowing for a cost efficient balancing of the system, and integration of RES generation.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

Responsibility should be on individual operators, but they should be allowed to outsource the required service, and the balancing rules should be the same for all operators. Reasoning: Producers of renewable should in the daily operation, and towards the power markets, be treated the same way as other types of generation. To get right market prices and willingness to pay actual value of services, renewables should also have the same obligation and rights towards own imbalances as other type of generation. Common rules for generation and efficient balancing markets are the most efficient way to cover the need for balancing services. Producers of renewable who think it is too challenging to be responsible for their own imbalances also have the possibilities to outsource this type of services, which we see is being done to a large extent in Germany today. This is also a mean to provide this kind of service in an efficient and professional way. We have seen examples of large negative prices in the spot market, and where wind generations continue to produce since they - due to the relevant support regime - get a price independent of the actual market value of generation. In these cases it would have been more beneficial for the society, to stop wind generation (and compensate the wind generators in other ways).

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Current market arrangements are sufficient to reward flexibility

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing is appropriate

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Other (please specify)

Please specify which other barriers -open reply-(optional)

There are still problems with parts of the world economy that makes some countries fail to meet their environmental obligations. In general, coal is widely chosen as a cheaper energy source than alternative renewable sources. In addition, reduction of former financial support schemes makes competition with fossil fuels more difficult.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

Waste heat and heat pump: Due to increased use of low temperature heating systems, more low temperature energy sources will be available both for direct use and with heat pumps.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

By continuing deployment of energy flexible systems based on renewable sources it will be an economical challenge at the same time building energy efficient or "plus" houses. On the other hand it is necessary to further develop energy flexible systems to exploit the use of volatile and cheap energy sources.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers

G.2.1. Please explain your answer -open reply-(optional)

Life-cycle analyses have shown that the electrification of road transport through renewable energy sources is by far the most efficient option: It has at the a lower CO2 footprint than biofuels and a lower impact on surface and groundwater pollution through fertilizer or the challenge of food security related to biofuel production.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Yes, cooperation with third countries should be further promoted, as flexible mechanisms involving third countries can contribute significantly to cost-effective supply of RES to the EU. Important countries include Turkey and the countries belonging to the Energy Community.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Notes: For offshore wind cost reductions should be sought in new materials, standardization of equipment and procedures, installation, and operations and maintenance. Innovative partnering and streamlining contracts with risk-reward sharing should be developed. Solar PV is still immature with room for improvements. Manufacturability and cost is key and should be considered at an early stage of development. CSP is unlikely to be cost-efficient compared to solar PV in the long term. With novel energy storage technologies, the storage advantage of CSP will diminish. Osmotic Power is immature with further need for improvement for key components and system, for scaling up towards a commercial industry. Bio energy is characterized by a number of competing technologies and fuels, and the development and demonstration of bio-refineries for fuel and material challenges should be supported, with increased focus on emission control and carbon capture. For wind and solar, improved flexibility and higher penetration may be achieved by combination with storage systems and smart electronics. Also bio technologies should aim at increased flexibility. Demonstrations of combinations with fossil fuel power plants could accelerate the transition away from fossil fuels. Flexible system integration will in general be a key challenges. Developers may make use of demonstration plants to test technologies offering flexibility, and simulation models will show how practicability.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

None, as demonstration plants will provide valuable insight for process and model validation and allow selection of most suitable technology for the future.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Floating wind and deep geothermal utilization (EGS) should be given more priority after 2020 due to the abundant resources. EGS is also

holding the advantage of ubiquitous occurrence and does not rely on grid investments to the same extent as offshore technologies. So far the industry has proven the concepts with demonstration plants, but further commercialization is slow due to high technical and financial risks. In addition we will mention electricity production from low temperature heat sources with potential to increase el-production in CHP plants. Osmotic power, which is utilizing water with different salinity gradients to generate electricity, is one of the technologies that can provide clean energy towards 2050. Today the industry has proven the technology to work with several demonstration plants in operation, and has generated a strong interest from needed manufacturers of key components. There is still a need for further development to accelerate the area and minimize the technical risks towards commercialization. Localized resources like Demand-Side-Management, Generation and Storage may hold a significant potential of short-term balancing of the energy system. Currently we are experiencing industrial interest within these spaces but the full potential, (in volume but also as a part of the overall energy system), is still yet to be seen. Frameworks should be set up to standardize technology and market access for these resources.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply- (optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)

Yes, even if there should be room for support on different conditions. Prioritization is important between competing technologies to provide sufficient funding for most successful technologies with highest potential. Still, not all support should be linked to results achieved. The financial risk triggered by not knowing how much support will be gained before the end of the project may also lead to fewer applications. Financial support linked to set achievements by a given date will require very clear and quantitative goals, which might attract some applicants and be inappropriate for others.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)

Oxfam International, contact: Marc-Olivier HERMAN, Marco.Herman@oxfaminternational.org

2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Oxfam supports mandatory targets for renewable energy sources post-2020. However, biofuels should not count towards those targets because of the negative impacts of the large scale cultivation of their feedstocks on food security, land and labour rights in developing countries and of environmental sustainability issues. Oxfam opposes any sectoral target for transport because, de facto, biofuels account for the majority of renewables under this target. Targets for biofuels in the EU are triggering rapid expansion in production of biofuels feedstocks and inevitable land-use change: this dynamic effect occurs whether or not the biofuels are imported into the EU. Recent estimates suggest that biofuels drive more than 50% of large-scale land acquisitions globally, and 66% in Africa (International Land Coalition report, ILC, IIED and CIRAD, 2011). Most experts agree that biofuel production exerts considerable upward pressure on prices and that government mandates aggravate this. Ten international organisations – including FAO, WFP, World Bank and IMF - recommended to the G20 in June 2011 that their governments “remove provisions of current national policies that subsidize (or mandate) biofuels production or consumption” because they contribute to food price volatility. Further, rapid expansion of biofuels production puts the livelihoods of poor people in developing countries at risk because of their impact on land, labour and human rights.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Other (please specify)

Please specify which other policy elements? -open reply-(optional)

In addressing emissions from transport, policies and investment to reduce demand for transport fuels are far more sustainable and cost effective than substituting biofuels for fossil fuels. Options include: - Set and enforce ambitious vehicle efficiency standards for car manufacturers: the 2007 UK King Review estimates that technology already available or close to market could provide 30% savings. The European Federation for Transport and Environment estimates that long-term fleet efficiency targets for European car manufacturers could offer annual emissions savings of 95 million tonnes of CO2 by 2020 at low cost or even yielding abatement profits as reduced fuel costs outstrip technology costs. - Better enforcement of speed limits: the University of Leeds estimates that this could reduce emissions from transport by 8%. - Promotion of low-rolling resistance tyres (LRRTs): the European Federation for Transport and Environment estimates that this could reduce emissions by between 3% and 6%, with an additional 2.5% saving from monitoring tyre pressure. - Increasing support for public transport. - Promotion of car-sharing schemes. - Promotion of more efficient driving methods. - Congestion charging. - Better land use planning. - Promotion of inland waterway and rail transport for goods.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Oxfam supports financial support for renewable energy. However, in the absence of guarantees about the sustainability, this should not include financial support for biofuels. The EU should put an end to its costly and flawed policy of support to biofuels. This policy sets binding targets in combination with direct and indirect financial incentives. According to a study by the Global Subsidies Initiative, in 2008, total transfers in support of biofuels associated with policies of the EU and the Member States amounted to €3.01bn. Mandatory targets aggravate the price inelasticity of demand for feedstocks, contributing to food price volatility. Subsidies and tax incentives for biofuels distort markets and subsidize fuel consumption. Instead, financial support should be given to policies that are far more sustainable and cost effective than substituting biofuels for fossil fuels in transport. Priority should be given to financial support for sustainable forms of renewable energy and for policies promoting energy efficiency and reducing demand for transport fuels and for energy. Public funding for biofuels should be limited to: - carrying out further research on diversifying feedstocks use for biofuels, e.g. R&D to use crop residues and other waste rather than the crops themselves; - providing access to clean energy to the poor in developing countries.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-

(optional)

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)</p>	
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)</p>	
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>D.2. Which renewables-specific grid related</p>	

rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

EU policy should not aim at increasing the uptake of biofuels in transport because biofuels cannot be produced sustainably on the scale needed. In addressing GHG emissions from transport and fossil fuel dependency, policies to reduce demand for transport fuels are far more sustainable and cost effective than substituting biofuels for fossil fuels. Large scale production of biofuels is not sustainable socially. Evidence shows that biofuels production is a significant driver of: - Food insecurity. Biofuels compete with other crops for water and land, and are often grown on land previously used to collect or grow food. In 2011 WFP, FAO and other international agencies have

called for the G20 to remove policies that promote biofuels consumption or production because they force up food prices. - Land-grabs. Opportunity for profit associated with EU and other mandates has driven speculative acquisition of land – more than 50% of global land acquisitions according to a 2011 report by the International Land Coalition – often displacing communities whose land rights are poorly protected. This dynamic effect occurs whether or not biofuels are ever produced or exported. -Abuses of labour rights. Common problems include forced labour, inhumane conditions, discrimination against women and child labour. Further, large-scale production of biofuels is not environmentally sustainable due to limited or even negative GHG savings as a result of indirect land-use change and loss of biodiversity.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

Current sustainability criteria for biofuels are inadequate in relation to: - the impact of biofuels production on food prices and food security; - the impact of biofuels production on communities' access to land and water; and - conditions for producers and labour standards within biofuels production value chains. Reporting obligations are insufficient. Moreover, emissions savings as compared to the fossil-fuel alternative must be shown and these must take indirect land use change into account. The same sustainability criteria should apply to biofuels and all solid and gaseous biomass under both RES and ETS. Alternative criteria must be developed transparently with involvement of all stakeholders, including exporter countries and organisations representing women and men most affected by abuses, including plantation workers, smallholders, local communities and indigenous people. Criteria should provide means by which smallholders can reasonably seek certification. Without pre-empting the result of such a process, compliance with the following criteria would help to ensure sustainable production of biofuels and biomass: - Impacts on food security and on food prices should be monitored at international level. - Free, Prior and Informed Consent must be obtained from all affected communities. - Companies must ensure decent work (as defined by ILO) within their value chains. - Men and women smallholders and labourers must be treated fairly and transparently.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with developing countries is essential in order to mitigate negative social and environmental impacts of biofuels and biomass production and to promote access to energy and income for the poor. EU policy on biofuels and biomass will inevitably have an impact

on third countries as biomass sourced in the EU diverts EU food production to third countries and increasing demand for biomass will have to be met through imports. Any biofuels or biomass imported into the EU, should be produced in accordance with social and environmental sustainability criteria (see section H.). Feedstocks and production models that preserve natural resources and maximise opportunities for smallholders should be prioritised. Mandates should be scrapped as they can drive a sudden increase in demand to which smallholders are unable to respond, leaving them at risk of losing land and resources to large agribusiness. Sustainability criteria should provide means by which smallholders can reasonably seek certification. Where smallholder production is unattractive, long-term, equitable lease arrangements should be promoted. We caution against using official development aid to leverage private investment or to fund projects with the goal of meeting EU mitigation commitments. The focus of aid in the energy sector should be energy access for the poor.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)	
J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

IDENTIFICATION	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Lola Uña Cárdenas UNICA - Brazilian Sugarcane Industry Association
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Other (please specify)
Which other country? -open reply-(optional)	Brazil
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
A. GENERAL POLICY APPROACH	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

N/A

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

N/A

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of awareness - Lack of suitable information - Other (please specify)

Please specify which other barriers -open reply-(optional)

Trade also constitutes an important barrier. Trade barriers continue to prevent European consumers access the many benefits of sugarcane ethanol. After more than three decades, the U.S. has lifted its tariff on sugarcane ethanol giving consumers access to one of the best environmentally-performing biofuels available at commercial scale and competitive prices. Brazil hopes this announcement will encourage the European Union, another important biofuel market, to do the same and develop free markets for clean, sustainable and renewable fuels. The elimination of the U.S. import tariff on ethanol is a strong signal to the EU, which imposes a very high import tariff on sugarcane ethanol, making exports from Brazil to the EU almost impossible.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Air

G.2.1. Please explain your answer -open reply-(optional)

Different options will be available. The increase of the bio-ethanol content in vehicles would be one option. Nearly half of Brazil's energy comes from renewable sources compared to an average of less than 20% for the rest of the world. Sugarcane provides 18% of the country's total energy needs, second only to oil and ahead of hydroelectricity. More than half the country's gasoline needs have been replaced by sugarcane ethanol – making gasoline the alternative fuel in Brazil. Incentives to develop and expand the use of bio-ethanol in Light and Heavy duty vehicles Incentives to expand the use of Flex-fuel vehicles (vehicles that can go on gasoline, pure ethanol or any combination of the two) and consumption of E85 Incentives to applying flex-fuel technology in hybrid vehicles and an increase of the allowed ethanol content in gasoline to at least 15%. Today, in Brazil, half of the light vehicle fleet is Flex Fuel, and 90% of new vehicle sales are Flex-fuel.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing criteria are already burdensome to implement

H.1.1. Please explain -open reply-(optional)

Requiring additional sustainability criteria would suppose an additional administrative burden for the industry and the idea that some biofuels are 'guilty before proven innocent' is not giving the right signal that the EU is serious about biofuels, and that investments should be encouraged in the area. The examples of additional requirements given by the European Commission do not answer the concerns derived from this option: • Proving the use of degraded land: the use of degraded land for biofuels production is already encouraged in the Directives by a bonus equivalent to 35% of GHG savings; • Other provisions such as proving that measures were taken to improve land imply other problems such as how to ensure that we do not discriminate leaders/ front runners who have already achieved significant yields increase in previous years; • Requiring national measures are taken to control damaging land use change would inevitably raise question from international trade rules perspectives. The compatibility with international trade rules of an option which would discriminate between biofuels and imposes different sustainability requirements on biofuels coming from different areas is extremely questionable. It may also stifle economic development in countries that have potential or are already significant producers and protect production in developed countries where damage on land use has already happened.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient

<p>to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>Global policies need to be managed globally. Regulators should collaborate at global level to design and implement consistent policies to fight deforestation and protect high carbon stock areas. The EU should recognize the efforts made in some countries, such as Brazil, to establish sound land use management practices and encourage the use of land which is both available and suitable for crops for biofuels without displacing other crops (e.g. degraded lands, provided the definition captures the different elements for a land to qualify as degraded and is measurable). The Brazilian agro- ecological mapping aims at managing sugarcane land expansion and ensuring respect of sensitive areas at the same time. Such land use planning exercises should be encouraged as allows the industry to identify lands suitable for biofuels feedstock and minimise the risks of indirect adverse effects, not limited to emissions.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?  
-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

VERBUND AG, Walburga Hemetsberger, walburga.hemetsberger@verbund.com

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Austria

4. How would you prefer your contribution to be published on the Commission website, if at all?  
-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?  
-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Non-sectoral targets facilitate investment in the most efficient technologies; these are characterized by a high cost/benefit ratio.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Subsidies for nuclear energy have to be abolished in order to achieve fair market conditions

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

For solar energy/storage technologies (esp. for pumped storage as this is the most efficient storage technology so far).

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

investment support

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Gradually align support structures where it is possible and phasing-out of subsidies according to commercial viability of respective technology in order to achieve fair market conditions in the long term. However, the national support levels should depend on the economic potential of the technology, meaning that for example wind generation should be supported in areas of high wind potential and PV should be supported in areas of high solar potential. This makes sense in order to prevent inefficiencies on the one side and to accelerate market orientation on the other side.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

-

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Long-lasting support by fixed feed-in tariffs is not market oriented and can lead to overheating due to cost development not mirrored in tariffs; investment support encourages self-regulation of the RES-market as RES then are exposed to market dynamics.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Other (please specify)
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Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Both, - strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other; AND - push for more standardisation and harmonisation on EU level or mutual recognition Any intervention on EU level into existing national law must not worsen the status quo. In order to speed up permitting procedures, effective control is needed if national authorities (or grid operators) fail to comply with European or national regulation.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Investment may be hampered in case grid services are provided for free and/or costs are redistributed to generation.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?	
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-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs -  
Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

All generators of VOLATILE RES have to bear greater responsibility for system costs. Therefore, hydropower has to be excluded from responsibility. The same is true with regard to balancing risk: hydropower is not a volatile RES and must therefore strictly be excluded from bearing balancing risks. For provision of grid services (e.g. ancillary services), appropriate remuneration should be considered. All generators of VOLATILE RES should carry out thorough and proper scheduling and forecasting and thus limit system costs.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Lack of awareness

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail
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G.2.1. Please explain your answer -open reply-(optional)	
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## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient
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H.1.1. Please explain -open reply-(optional)	
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Not all uses of biomass for transport are sustainable; electrification could offer more sustainable solutions.	
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## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	Yes
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	No, the EU should first focus on developing its own renewable potential
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I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	Yes (explain in which way and to which degree)
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Please explain in which way and to which degree -open reply-(optional)	
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Prioritization within EU-infrastructure package	
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I.4. Which measures do you consider appropriate and necessary in order to foster	
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cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Priority should be given to enhance RES-production within the EU as well as to improve security of supply (storage technologies)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Hydropower has to be considered as crucial for RES-generation in Central Europe

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Enhanced funding for scale-up and demonstration projects (between R&D and industrialized technologies)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Storage technologies for load leveling and energy management

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	SSE, Reinout Wissenburg, reinout.wissenburg@sse.com
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	United Kingdom
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
<p>Put simply the energy policy challenge facing the EU is: how can energy supplies be delivered sustainably, securely, and affordably? SSE believes that renewable energy helps to meet the policy challenge by addressing all three of these issues: •Sustainability: renewables reduce emissions from the power sector; •Security of supply: renewables reduce dependence on imported fuels; and •Affordability: renewables reduce exposure to rising, and volatile, fossil fuel prices; and contribute to economic development, particularly regionally. These benefits are also acknowledged in the IEA's World Energy Outlook, which notes that increased renewables deployment "is expected to bring lasting benefits in terms of energy security and environmental protection". However the IEA also notes that that renewables can be expensive. The question for the Commission is therefore: how can these benefits best be realised, while minimising the cost of renewables? SSE believes that the best way of achieving continued renewables deployment, with all of the associated benefits, at an affordable cost is a binding 2030 renewables target. This will give investors and developers the confidence to make long-term investment decisions; and to drive cost reductions so that they remain competitive. Without this long term certainty there will be a 'cliff edge' in 2020 - investors will look elsewhere for opportunities; and manufacturers and developers will be unwilling to continue to drive cost reductions.</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)

Please specify which other policy elements? -open reply-(optional)

SSE believes that, alongside national support schemes for renewables, the EU ETS is a vital policy instrument for encouraging the deployment of renewables post 2020. A strong carbon price, delivered by the EU ETS, will encourage investment in low carbon technologies, whilst making higher carbon generation less attractive. Over time, as costs come down and the carbon price rises, it will enable renewables to become cost-competitive, removing the need for subsidy mechanisms. SSE would like to see the EU ETS strengthened by the removal of credits in Phase III and is part of a large group of organisations who have publicly called for this to happen. SSE strongly supports continued that R&D and collaborative work is important to help bring down the cost of renewables. In order to do this SSE recommend that the developers, supply chain and universities work more closely together – a good example of this

type of cooperation is the Offshore Wind Developers Forum in the UK which has been formed to drive cost reductions in offshore wind. SSE is also supportive of the introduction of a European Infrastructure Bank which could help to fund those projects which struggle to get finance due to the risks associated with them. The construction phase of offshore wind is a good example of this type of risk.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

Yes

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

A market-oriented technology specific approach at a Member State level, together with a strong EU ETS price. Over time there should be a gradual phasing out of support for technologies that no longer require it which incentivises a fast move down the cost-curve. However it is important to note that whilst SSE believes that renewables should be supported where the technology has not yet matured to be economic in the wider market, it also believes that renewables should be exposed to the price risk of their actions in the market.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Only question 3: No, national circumstances are very different regarding practical considerations, technology implementation costs and energy markets. Support schemes are a reflection of local circumstances and do not necessarily hamper the development of a European electricity market. For the longer-term development of a fully-functioning European electricity market, access to each other's support schemes may be necessary, and cooperation between Member States should be stimulated. However, a common system for financial support could seriously affect the deployment of renewables, and therefore the decarbonisation ambitions and security of supply requirements, in some Member States by making renewable investment more attractive in certain Member States and less attractive in others. Only question 4: There is merit in the structure of support being harmonised to facilitate competition, but this neither requires cross border trading nor a harmonised EU-support system. Questions 3 and 4: SSE does not see need for a difference between electricity and heating/cooling - both are similar in terms of the regionality of the resource and the need for support. However there is a case for greater harmonisation for transport. In addition, SSE does believe that there could be greater convergence between electricity and heating/cooling support schemes within Member States.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-

(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

All of the mentioned items are relevant and prove to be serious impediments to further growth. Mainly the administrative procedures prove to be burdensome and lengthy. Examples include permitting, changes to permits and the number of different permits.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Administrative procedures are a result of national circumstances and have evolved over time. It is a push towards limiting the length and number of administrative procedures that could prove effective. Harmonisation or standardisation is expected to increase the burden rather than reducing it. An exception might be projects of European interest that involve cross-border procedures. Here European guidance could reduce lead-times and minimise overlap.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Grid connection rules and cost-sharing rules are being considered under the GB's reform of transmission access arrangements - Ofgem's Project TransmiT. These changes should result in more cost reflective and beneficial arrangements for access for renewables that should endure post 2020. Changes to the balancing rules are also due for consideration in GB. However, these are more focussed on ensuring security of supply rather than encouraging renewables. By the nature of the balancing rules, these could also have an impact on the curtailment regime. In addition, changes are being introduced this year to generator licences that are intended to limit the costs of curtailment of generation in constrained zones. It is not clear whether or not these would endure beyond 2020.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

The current GB arrangements to fund network infrastructure for generation development, in particular renewables, is a relatively new framework (2010). In addition, the use of the framework for the current transmission price controls will cover the period through to 2021. We do not believe that there is a need to change any of the other rules surrounding access or dispatch of renewables.

D.3. With regard to system integration of wind and solar power, what measures do you

Other (please specify)

consider most important to increase the flexibility reserve of the system: -multiple choices  
reply-(optional)

Please specify which other measures -open reply-(optional)

The UK is set to introduce a capacity market which will help to encourage flexible, firm back-up capacity by providing payments to generators for providing capacity. SSE believes that, where necessary, capacity payments will be useful in encouraging this type of capacity. The UK's capacity market is likely to include a secondary market in which generators can hedge their positions over short time periods - if designed correctly this should help to increase the use of demand response and storage (including pumped storage). The development of smart grids (assuming that 'smart grids' can be better defined in future), and the roll-out of smart meters, may also help to encourage these demand side measures. SSE considers that back-up capacity, including the increased availability of energy storage in its broadest sense, should be prioritised over better use of interconnection in its broadest sense. Storage will be important for intra-day, intra-week and intra-Seasonal periods and must focus on a range of technologies not only batteries but other options such as Demand side response, heat, cryogenic, mechanical pump storage etc. By encouraging all energy storage technologies the economies of scale will allow all forms of variable output generation to play a more significant role in the energy mix while also maintaining security of supply. SSE also considers it important that future arrangements must add value to shippers and should incentives market arrangements that reward

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

The UK is set to introduce a capacity market which will help to encourage flexible, firm back-up capacity by providing payments to generators for providing capacity. SSE believes that, where necessary, capacity payments will be useful in encouraging this type of capacity. The UK's capacity market is likely to include a secondary market in which generators can hedge their positions over short time periods - if designed correctly this should help to increase the use of demand response and storage (including pumped storage). The development of smart grids (assuming that 'smart grids' can be better defined in future), and the roll-out of smart meters, may also help to encourage these demand side measures. SSE considers that back-up capacity, including the increased availability of energy storage in its broadest sense, should be prioritised over better use of interconnection in its broadest sense. Storage will be important for intra-day, intra-week and intra-Seasonal periods and must focus on a range of technologies not only batteries but other options such as Demand side response, heat, cryogenic, mechanical pump storage etc. By encouraging all energy storage technologies the economies of scale will allow all forms of variable output generation to play a more significant role in the energy mix while also maintaining security of supply.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

As above in response to Section E question 3, the UK is set to introduce a capacity market which will help to encourage flexible, firm back-up capacity by providing payments to generators for providing capacity. SSE believes that, where necessary, capacity payments will be useful in encouraging this type of capacity..... This capacity mechanism would be expected to encourage participation from the Demand side. Without such a capacity mechanism, we do not believe that the current arrangements will be sufficient to reward flexibility and so could have serious consequences for security of supply.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

We believe that the current Renewables Obligation has served the UK market well and has brought on significant levels of renewable build. However, the current UK support mechanism for renewables is proposed to be changed under EMR to one that is based on Contracts for Differences (CfDs). Both these renewable support models work within the current wholesale market model. However it will be important that under the CfD model renewable generators are exposed to their impact on the Balancing and Market prices. It will also be important that a capacity payment mechanism is introduced under EMR to support security of supply as renewable penetration increases.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Other (please specify)

Please specify which other barriers -open reply-(optional)

In addition to those mentioned, SSE thinks that the disruption of changing a heating system is an important barrier which should be recognised. This includes disruption during the installation itself, the required on going user control which may be different to the previous heating system, or requirements for handling fuel and cleaning in the case of biomass systems. Renewable heating systems are unlikely to simply "plug and play" in place of an existing boiler, which means that they require advance planning and are unlikely to be installed as a distressed purchase when an exiting boiler breaks down.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

SSE believes that all of the above technologies have a role to play in increasing renewable energy beyond 2020. In particular SSE thinks that the benefits to the grid of electric storage heating should be recognised. Storage heating has lower emissions compared with standard electric heating as it evens out the demand profile across the day, minimising the need to use back up fossil fuel plants and complementing renewable electricity generation. It is therefore critical that the decisions on room heaters under the Ecodesign directive do not remove storage heaters from the market, otherwise these benefits could be lost. SSE is involved in an innovative project in Shetland(1) that will demonstrate how stored electric heat can minimise investment in networks and thermal generation and maximise renewables penetration. SSE would also like to emphasise that district heating has a significant role in increasing the amount of heat coming from renewable sources. The UK currently has a low number of district heating systems compared with many other European countries. This is most likely due to the upfront costs and lack of financial support, as mentioned in question 1. (1) [http://www.ofgem.gov.uk/Networks/ElecDist/Policy/Documents1/SHEPD\\_NINES\\_CONSULTATION.pdf](http://www.ofgem.gov.uk/Networks/ElecDist/Policy/Documents1/SHEPD_NINES_CONSULTATION.pdf)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Increasing efficiency and reducing demand is critical in order to increase the use of renewable energy in heating and cooling. There is likely to be a total achievable capacity of renewable energy - therefore if there is a lower total demand then renewables will be able to

make up a much larger proportion of this. All renewable heat technologies tend to have higher capital costs than conventional alternatives, meaning there can be significant savings from reducing the required capacity by improving building fabric efficiency. For example heat pumps generally operate more efficiently in a retrofit context when there is a lower overall demand due to fabric improvements.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of standards - Lack of suitable information - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

Costs are currently the main barrier to the increased electrification of transport. The needed investments to reduce costs and increase uptake are hampered by a lack of technological standards. For instance, there are still a number of options for EV plugs and some use AC and other DC-technology. On top of this, there is no real business case for the required infrastructure investments. On a different note, the uptake by consumers is suffering from persistent preconceived ideas surrounding speed and range. Regarding bio-fuels it is the availability of sustainable bio-fuels that is the main barrier. This issue has to be resolved as bio-fuels are the best low-carbon option for aviation and heavy transport.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail - Water - Air

G.2.1. Please explain your answer -open reply-(optional)

Electrification of transport is the best option for small vehicles and rail transport. For heavy transport and aviation liquid bio-fuels from truly sustainable sources is so far the best low-carbon option. Alternatives like hydrogen produced from renewable energy have good potential, but are still in its early stage and require demonstration and development. SSE considers that hydrogen may have an important role to play in future. There is a synergy between hydrogen's ability to be produced in a way that assists the operation of the network helping to balance the system. This is also augmented by its ability to be stored at scale and the major part it could play in the replacement of natural gas and transport fuel. The potential for the direct use of hydrogen from electrolysis in public transport should also be recognised.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

The current uncertainty regarding sustainability criteria in Europe, and consequently in the UK, is severely limiting the development of biomass as a viable alternative to fossil fuels. SSE recommends that sustainability in biomass be harmonised across Europe as soon as possible as the risk of change is just as high in the period prior to 2020 as it is in the post 2020 period. SSE therefore favours lifetime grandfathering of sustainability criteria at an EU level as failure to introduce some sort of grandfathering of sustainability requirements will result in continued uncertainty, limited development, and a failure of Europe to reach its targets. Without a grandfathering policy SSE could not support any binding sustainability requirements either for GHG emissions or land use. As a minimum, some sort of grandfathering and grace period policy should be introduced in order for generators and suppliers to prepare for any changes. SSE would suggest that any changes can only be implemented in a set time-frame, and only after pre-notification of what these changes would be. The exact lengths of these would need further discussion. With regards to land use SSE believes that the criteria currently contained in the RED sustainability requirements is adequate and does not need to be extended for the foreseeable future. SSE's research to date has indicated that the land use criteria is going to be difficult to prove in absolute terms however a robust qualitative assessment is possible.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for

Yes

cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

SSE considers there is no real need for a different approach to third-countries. In certain regions it can be neighbouring countries that are not in the European Union with which intensified cooperation can prove advantageous. Certainly for infrastructure investments that enhance the development of renewable energy this could work. An example of this is the NorthConnect project between Scotland and Norway that supports the development of a low-carbon energy system in both the United Kingdom and Scandinavia.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

No (explain why)

Please explain why -open reply-(optional)

Some infrastructure investments are needed sooner than others. Therefore it makes sense to prioritise certain infrastructure projects. To incentivise quick realisation of infrastructure projects merchant interconnection should be supported and development by non-TSOs encouraged.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

Full implementation of article 9 of the RES Directive in all Member States.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Instruments promoting the import of renewable electricity from third countries to meet European RES/decarbonisation targets exist, but can be further exploited. Article 9 of the RES Directive already offers the opportunity to meet RES targets via imported electricity from third countries. The Directive also includes cooperation mechanisms within the EU that can be exploited.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Yes, such cooperation should be further fostered. This is an example of a project of European interest that involves cross-border procedures. Development of a North Sea grid is essential for harvesting the full offshore wind development in the built up of a renewable energy system.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely

wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

E3G

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable

Yes, a combination of EU and sectoral level targets is appropriate

energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Target-based European policy has a successful track record of driving action, stimulating innovation and creating markets within and beyond its borders. Therefore, E3G supports legally binding post 2020 targets for Greenhouse Gas emissions, renewable energy supply, energy savings and the application of carbon capture and storage to current and new fossil fuel capacity. These policies must be structured in a way to ensure that targets reinforce rather than undermine one another. This is the problem with the current 2020 targets. Sector and technology specific targets for RES are essential for three reasons: i) RES technologies are comparatively new and uncompetitive against incumbents which have had decades of large-scale state support for development and deployment ii) incumbent fossil-fuel power generation technologies continue to receive substantial direct and indirect financial support from states iii) the lack of a target beyond 2020 undermines expansion, will cost jobs and undermine innovation.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Two main forms of intervention are needed to develop further RES solutions: i) focused support for pre-commercial technologies such as wave and tidal energy. This should be organised through a competitive approach at EU level to ensure that there is a race to the top ii) redesign of markets to facilitate large-scale investment. E3G has been actively engaged in the UK electricity market reform debate. We identify the central challenge for the UK and other EU governments of being a) attracting significant levels of investment b) in low-carbon technologies than tend to have high technology specific risks c) into a market that will need to evolve to ensure it can securely accommodate large proportions of intermittent renewables. Long-term supply contracts are one way of delivering this but they require technology specific targets to channel investment

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

Yes

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Accelerate convergence of national support schemes

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)  
-open reply-(optional)

there are many precedents for Member States sharing costs and working across borders for a common interest. The Baltic interconnector is a good example of this. Another example is the use of Joint Implementation (JI) projects between European Member States. The RES directive allows Member States to invest in another country so long as accounting system allows it to benefit from such investments. Additional means of incentivising this could include preferential treatment for specific technologies and accounting rules that allow Greenhouse gas emissions to be credited to the Member State that makes the investment.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

N/A

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)	
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	
J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)	
J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

<b>IDENTIFICATION</b>	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Gert De Block (CEDEC)
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need	

to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Yes, a mandatory target at EU level is appropriate. The translation into mandatory national overall targets for the use of energy from renewable sources must take into account the Member States' different starting points, potentials and specific characteristics. National sectoral targets should be indicative and non-legally binding, in order to give Member States flexibility in reaching their overall targets.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Financial support. Financing possibilities can be improved by specific support programs, like providing low-interest loans (such as the Renewable Energies Program in Germany, where KfW (German bank) is giving incentives for the use of renewable energy by providing low-interest loans). In particular, the financing of cross-border renewable energy projects, involving several member states, is difficult and needs specific solutions.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

Yes

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

On the basis of maturity of available technologies and the national market situation, Member States shall decide if and how current national support schemes are adapted. Exchange of best practices between Member States may lead to a gradual convergence of national support schemes. A centralized approach on EU level does not seem the appropriate method at this moment. Although cross-border projects need specific support, opening up national support schemes is considered the wrong solution as that would jeopardize the functioning of the national schemes. Financial support programs should be provided not only by the Member States but also by the EU.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

<p>the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>
<p>Please specify which support schemes you consider most distorting -open reply-(optional)</p>	
<p>The question is not completely clear which kind of distortion of competition is meant, i.e. distortion in the internal energy market through different support schemes in Member States, or distortion through differences between technologies within national markets. In any case there should be no legal or actual discriminatory treatment between large market players and small, local players. Therefore it is important, that the support categorizes according to technologies and size.</p>	
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)</p>
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
<p>- public opposition in the framework of administrative procedures</p>	
<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Other (please specify)</p>
<p>Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)</p>	
<p>- The approach of the current Directive to lay down a general framework for Member State action is fine - Policy measures to reduce length and complexity of administrative procedures should help investors to overcome public opposition. As public opposition can best be overcome or solved on the local level, measures should not necessarily be subject to EU harmonization.</p>	
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>Obligation for network operator to develop network - Priority or guaranteed access - Other (please specify)</p>
<p>Please specify which other rules -open reply-(optional)</p>	

An obligation for network operator to develop the network makes only sense if supported by a regulatory framework which stimulates investments.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

Increased availability of storage also at distribution grid level! At present there seems no direct need to introduce a market design for capacity markets. Instead, the existing balancing service markets should be further developed. Regulation should be avoided as far as possible.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs -  
Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

The balancing responsibility of producers of renewable energy should apply to network operators in general, not just to the TSO.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

\* smart grids, use of storage capacities, e-mobility, demand aggregation, interruptible demand \* an important step towards integration of volatile renewable energy would be standards for smart meter, after passing a cost-benefit-analysis.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)
Please specify which other pathways -open reply-(optional)	
Biosolids, sewage gas, landfill gas, mine gas, biowaste, waste heat. In general, the possibilities to increase the share of renewable energy in heating and cooling are manifold. The choice depends on the specific region and the local conditions. Also the costs may differ according to the existing network infrastructure or the requirement to adapt to existing energy systems.	
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
The lower the demand of heating and cooling the easier it is to reach a high renewable share. Therefore the full energy efficiency potential should be exploited to decrease the demand for heating and cooling, the remaining demand should be covered by district heating and cooling, ideally fired by renewable energy. Measures for the promotion of renewable energies must not impede the use of combined heat and power generation. Where an area is already supplied by district heating, no incentives should be given for investments in renewable heating installations.	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Lack of standards - Lack of infrastructure
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
G.2.1. Please explain your answer -open reply-(optional)	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
H.1.1. Please explain -open reply-(optional)	
The cultivation of biomass/ biofuels and the land application of the digestate shall not increase the loads of not-used nutrients, heavy metals and other pollutants in the soil and their run-off/leaching into water bodies. Statutory provisions for water protection have also to be respected when growing energy crops. The water framework directive 2000/60 and the Groundwater directive 2006/118 aim at reaching a good status of all water bodies till 2015. Article 11.3 (a) of the water framework directive and Article 6.1 of the Ground water directive define the standards which the cultivation of energy crops has to fulfill. In no event, the environmental objectives of the water framework directive may be undermined by increased biomass production for renewable energy.	
<b>I. REGIONAL AND INTERNATIONAL DIMENSIONS</b>	
I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of	Yes

<p>cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>Nevertheless member states should primarily exploit their own potential of using renewable energy.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>No (explain why)</p>
<p>Please explain why -open reply-(optional)</p>	
<p>Prioritizing investments in certain member states could lead to an unbalanced relation between member states, and possibly discriminating those states which were prime movers. Each country has specific potentials for different kinds of renewable energy sources, and should therefore be equally treated.</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	<p>Technology performance and cost-competitiveness - System integration</p>
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to</p>	

2050? -open reply-(optional)

Network expansion and new interconnectors

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

The transition from R&D to deployment is too slow

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

BirdLife Europe. ivan.scrase@rspb.org.uk

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

We support an ambitious post-2020 target set at the EU level. The ETS is insufficient to overcome persistent barriers to innovation and deployment. A binding target as a % of total energy is needed to also drive energy efficiency. Certainty about future RES support/investment is needed for all stakeholders: financiers and developers need attractive, low-risk returns on investment, while NGOs and the public need assurance that support will go to technologies that reduce climate risks and are ecologically sustainable. The post-2020 target should not be limited to, or followed by, sectoral targets: the current transport target and rush to develop unsustainable biofuels show the risks. Increased ambition beyond 2020 must not entail a further unsustainable increase in the use of all forms of bioenergy. Carbon emissions from bioenergy are treated as zero, but its use may not contribute to decarbonisation by 2050 due to time lags before neutrality is reached. Further, bioenergy is driving direct and indirect global land use change. This is increasing pressure on farmland, forests and all natural areas. Renewables from all forms of biomass should therefore be addressed through a separate legal instrument to the wider post-2020 target, with strong sustainability criteria and limitations on total biomass use. BirdLife could not support a higher post-2020 target that simply pushes up bioenergy use even further without adequate carbon and biodiversity safeguards.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

The EU needs better data gathering on biodiversity and strategic planning, to ensure that 'availability of more sites for renewables' means availability of sites that are not in conflict with nature conservation. Steps must be taken to improve public acceptability: more openness, accountability and public participation in planning procedures. The addition of further and enhanced sustainability criteria such as proper carbon accounting will be necessary to ensure renewables reduce climate risks and get the public support they need. Market rules and grid access and development should remove the historical bias that favours centralised and inflexible power generation. More support is needed for micro-generation and community renewables, both for on-site use and export to the grid. The EU should abolish subsidies to fossil fuels and nuclear in EU, and internalise fully their external costs. This should include strengthening the European emissions trading scheme to include the cost of carbon dioxide emissions from fossil fuels, and internalisation of the full cost of nuclear insurance, plant decommissioning and waste storage. Finally, a strong regulatory framework for energy efficiency is needed, including ambitious and legally binding targets.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support for some technologies might not be necessary if everything proposed in Question 2 is in place. However it is unlikely that enough will be achieved by 2020 to overcome the systemic barriers renewables face today (historical bias/ 'lock-in') and to internalise all external costs. To create an energy system that is suited to integrating centralised and decentralised renewable energy sources, the European Commission should support modernisation of Europe's grid system. The ecological impacts of energy infrastructure development must be minimised, in line with the European Grid Declaration signed by TSOs and environmental NGOs in November 2011. Some technologies will still need support to stimulate investment and bring costs down (e.g. offshore wind, wave and tidal, micro-generation). Also competition for the 'best' sites for onshore wind and solar (in terms of availability of wind/ solar resource) will become intense, putting increasing pressure on areas that are valuable for other uses e.g. nature conservation. Financial support is likely to be necessary to maintain investment while avoiding these conflicts. Moreover, we have seen in the first 5 years of putting in place the current targets, that a lot of support has gone to the easy and off the shelf solutions that have not always been the most sustainable or low carbon options. In order for investors to keep up the R&D into real alternatives, continued financial support will be needed.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Some increase in market-orientation and convergence of national support schemes would encourage investment where the resource is best and where suitable sites are available, rather than where the subsidies are most attractive. That means more output per solar panel or wind turbine, and lower overall investment. This is more cost-effective, and, with adequate strategic spatial planning, could also reduce ecological impacts overall. However Member States must be able to provide adequate support to stimulate investments in specific sectors, given their local circumstances. It is important to avoid a situation where all investment is concentrated in places where the resource (sunshine, wind) is best. This would increase cumulative environmental impacts, the necessity for grid expansion and public opposition. Convergence and competition should also ensure that national support schemes are linked to the same interpretation of high standards of sustainability, and actually deliver on emission reduction targets. Usually Feed-in Tariffs have proven the most effective structure to stimulate investment, giving investors greatest confidence. There should be a requirement to move to FiTs unless other systems (e.g. quotas) are working well. However, it is better not to create instability and uncertainty by changing successful support schemes. Recent and very sudden removals of FiTs (e.g. in Spain and the UK) illustrate the damage that can be done to growing sectors such as solar energy.

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>N/A</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>No</p>
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

We do not support a sectoral approach, but particular care is needed in the transport sector. Available sustainable biomass resources are limited and should therefore be used as efficiently as possible and dedicated to uses where no sustainable alternative is available. Biomass should not be used for passenger vehicles that could be run on electric power. Renewable electricity will increasingly be required for electric vehicles in the transport sector. Support policies should encourage smart charging of electric vehicles to fulfil a balancing function for renewable electricity.

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes</p>
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<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>No, support schemes do not have a significant distorting impact on competition</p>
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## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of credible and certified training and qualification - Other (please specify)</p>
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provisions of the Directive? -multiple choices reply-

(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Much is missing to enable sufficiently rapid and ecologically sustainable renewables expansion. There is a lack of: guidance, training and capacity in environmental ministries and authorities e.g. to conduct SEAs for renewable energy; credible and certified training and qualification for EIA consultants, leading to inadequate EIAs and subsequent legal actions; stability in support schemes (creating political risk for investors); national/ regional strategic spatial planning, leading to chaotic and unpopular development; public support, due to lack of sense that RE support is part of a wider package that will really reduce emissions sufficiently (e.g. continued support for fossil fuel industries, subsidies for technologies that do harm and do not cut emissions, failure to spread benefits to society as a whole and engage them as energy producers); coherence among standards for certification schemes; and sustainability standards for some forms of bioenergy, which is creating market distortions and public opposition. In many Member States permitting procedures are still too lengthy and complicated to get even very good schemes approved. BirdLife supports a move towards a more coordinated approach that makes it much easier and quicker to obtain permits for good proposals (with acceptable ecological impacts and real benefits in reducing climate risks). In particular, procedures should be simplified for small-scale installations with very limited environmental and social impacts.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

We support moves to simplify bureaucratic procedures, in particular for small-scale renewables. However a legally-binding time limit for all projects is unworkable. A proportion of proposals will inevitably face unforeseen delays. Inflexible time limits would result in some being refused unnecessarily and/or prejudice to existing legal requirements. The 'other' problems identified above require steps to: provide resources to strengthen environmental authorities' capacity; provide training and guidance (up to date, all EU languages) on Natura 2000 and environmental assessments for renewables; minimise reasons for objections to proposals (i.e. structure support towards technologies that genuinely cut carbon and are compatible with biodiversity protection; introduce binding energy efficiency targets; require strategic energy system planning to minimise overall infrastructure needs, and ensure infrastructure is developed with minimum impacts; improve application of SEA and EIA; improve openness and joint working between stakeholders; increase support for micro-generation and community renewables; and to provide incentives/ compensation for communities hosting RE facilities/ infrastructures). Mandatory sustainability standards for all forms of bioenergy are needed, with adequate guidance and rapid, effective implementation. This will eliminate barriers between countries and between different forms of bioenergy, and ensure effective emission reductions.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The way power networks are built and operated reflect the needs of large, centralised generators, impeding the transition to a sustainable energy system. Grid connection rules and grid codes have been developed to accommodate the requirements and abilities of fossil-fuel based and nuclear power stations. Renewables have different qualities and require different rules. There is a risk that some member State governments, which are less supportive of renewable energy expansion, will maintain these obstacles unless action is taken at the EU level.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

Developing the electricity network is necessary to take electricity from remote and intermittent sources and to balance electricity networks. New power lines will be less costly and will have smaller ecological impacts than the alternative i.e. more pumped storage reservoirs. Renewable electricity generators must be able to make money when the wind blows / sun shines, and every unit of fossil energy displaced is a good thing in climate terms. TSOs must make that revenue/ displacement possible.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators -  
Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Smart grids. Interruptible demand, including for domestic consumers (e.g. fridges).

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support -  
Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

The main barriers to renewable energy in this sector are low standards for energy efficiency and carbon emissions in new buildings, and lack of incentives to reduce these in existing buildings. Uptake is often low due to insufficient and/or unstable support schemes. There is huge potential for use of solar thermal heating in Europe, and for use of renewable electricity (e.g. rooftop solar PV) for air conditioning. Elsewhere stronger uptake of renewables in heating will require greater use of wood. Existing 2020 renewable energy targets will push the limits of sustainable wood supply. Effective sustainability standards are urgently needed, alongside targeted measures to increase wood fuel supplies from well-managed forests in the EU. In addition, much of the potential for sustainable and low carbon bioenergy is in waste streams such as sewage, food waste, agricultural waste and post consumption wood. However these resources are often difficult and expensive to bring into the energy market. It will not be possible to tap into them without significant public policy intervention e.g. reinforcement of the waste legislation in order to ensure a full recovery of useful biomass, and public investments in collection and

processing. However, waste streams often have important non-energy uses such as soil fertilisation: in these cases anaerobic digestion should be promoted to also enable energy recovery for heating.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

The priority should be replacement of older inefficient wood-burning heating systems, and also gas and inefficient electrical systems. These should be replaced with solar thermal or geothermal systems, or where necessary with efficient biomass systems. Full use of micro-generation should be ensured to meet any electricity demand, including for powering air conditioning units. Biomass CHP should be supported if effective sustainability criteria are in place and the greenhouse gas balance is ensured through full accounting, taking into consideration both direct and indirect land use change and the carbon debt problem. Biomass CHP and electricity-using systems such as geothermal should be managed to help balance electricity supply and demand.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Increasing the energy efficiency of buildings themselves can sometimes eliminate the need for additional heating/cooling, or reduce it to a very low level that can be supplied by micro-renewables. Where solar thermal or geothermal are inadequate, significant efficiency gains from biomass use are needed. Stronger incentives and/or regulation are needed to create a rapid switch to efficient biomass stoves or biomass-powered boilers for space heating and central heating, to replace inefficient open fires and older appliances. This could also have big effects for local air pollution, fuel poverty, fossil fuel import dependence and reducing pressure on overall biomass availability. Furthermore, there is a considerable R&D issue associated with the efficiency of air-conditioning units. It is essential to guarantee that they are powered wherever possible by renewable sources (see F2 above). Air conditioning units emit hot air, thus contributing to the urban 'heat island' effect and increasing the demand for further air-conditioning. With climate change expected to result in even wider use of air conditioning across Europe, and demand for ever more powerful units, there is an urgent R&D challenge to make cooling buildings carbon neutral.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Pace of technology development - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

A major barrier is the serious negative environmental impacts of biomass production for conversion to biofuels. The current sectoral target, without strong enough sustainability criteria, has driven a lowest common denominator approach with unacceptable impacts. BirdLife, together with the majority of environmental NGOs, is very firmly against a sub-target for the transport sector. Experience under the RED has proven that a blunt transport target results in a de facto biofuels target, and that this does not cut emissions. Attempts to decarbonise the transport sector through biofuels have failed. Both direct and indirect land use change have increased emissions and destroyed ecological and socially important sites around the world. This has created a strong reaction against biofuels across the spectrum of governmental, environmental, social, development and international organisations. The Fuel Quality Directive should be one of the key tools for addressing these problems. Other key tools should be increasing vehicle efficiency and demand management, and identifying spatial planning an IT options which reduce the need for commuting in and out of city centres. Electrification is already a workable solution for rail and city centre passenger transport, and must be further developed and incentivised. Biofuels can be considered but only where other forms of emission savings are difficult (e.g. road freight, water transport or aviation), and only with strict sustainability criteria

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail - Air

### G.2.1. Please explain your answer -open reply-(optional)

Third generation biofuels are unlikely to be available in the 2020s, and supply of sustainable conventional biofuels will be very limited. Therefore biofuels should only be used where there is no alternative (for example in road freight, water transport and aviation) and then only subject to maximising the efficiency of fuel use, managing total demand and ensuring sustainability of the biofuels used. Combined with decarbonisation of electricity supply, use of rail for passengers and freight, and electric vehicles for public transport and short car journeys are most promising. Smart charging for electric vehicles should be incentivised, to help balance electricity supply and demand. Improving the efficiency of all modes of transport must be a high priority. Given the specific challenges in the transport sector, and because decarbonisation is imperative, we believe that application of the Fuel Quality Directive (FQD) should be the way forward. The current FQD approach could deliver effective decarbonisation through a mix of using less dirty fossil fuels and using more renewables. However, this will only work and make sense if bioenergy standards are very strict and fully account for carbon including DLUC, ILUC and carbon debt.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

Lifecycle emissions including from indirect land use change should be fully accounted and included in the sustainability criteria for all biomass and fossil fuels. Given the urgency to cut emissions in the short-term, carbon debt should also be included in the LCA, so that that we are not giving equal weight to savings that will only be achieved after many decades (up to 200 years). All forms of biomass should be subject to sustainability criteria. While all must ensure real net GHG emission savings, each kind of biomass production and use presents specific sustainability challenges. Solid biomass from forests/plantations should include evidence of sustainable forests/plantations management. As management proof, FSC certification should be required or equivalent evidence. Use of food and agricultural wastes again raises different sustainability issues, such as diversion of biomass away from other important uses such as soil conditioning and fertilisation. Therefore sophisticated, targeted sustainability criteria are needed to ensure biomass makes a full and sustainable contribution to tackling climate change.

### H.1.1. Please explain -open reply-(optional)

For sustainability and public acceptability reasons, all forms of renewable energy must cut carbon emissions and also be sustainable in terms of short-term ecological impacts on the ground. Biofuels need additional criteria to ensure public money is no longer used to promote renewables that damage the environment.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

BirdLife supports European initiatives to stimulate renewable energy production around the world. The EU should actively encourage countries all over the world to decarbonise their energy systems, and there is significant potential for some countries to export renewable electricity into the EU and to third countries. The EU should strive to ensure that the global clean development mechanism (CDM) financing focuses on truly sustainable renewable energy and energy efficiency measures. Great care is needed to ensure that promoting renewables in third countries really drives decarbonisation and benefits the host countries, without putting at risk their ability to satisfy

their own future domestic renewable energy needs. Imports must not substitute for EU efforts, nor result in the EU exporting ecological impacts and carbon emissions to third countries.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)

No (explain why)

Please explain why -open reply-(optional)

Prioritisation of electricity network investments should be on the basis of contributions to integrating renewable energy towards decarbonisation of electricity supplies in the EU by 2050. The first priority should be integrating supplies within the EU, in particular from offshore wind and remote sources. Investments may be needed to import renewable electricity from North Africa in future, but this should not be prioritised over integrating supplies from within the EU. Integrating renewable electricity supplies from outside the EU will rely on the completion of a strong electricity grid system inside the EU as a precondition.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

The EU should focus first on becoming a world leader in clean, sustainable renewable energy production, aiming to meet or exceed its own needs domestically. Beyond this, stimulating investments outside the EU that contribute to additional cuts in global emissions and benefit host countries and protect their natural environments should be the priority.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

The political declaration of the North Seas Countries Offshore Grid Initiative was signed on 7 December 2009 at the European Union Energy Council. The declaration was signed by Germany, United Kingdom, France, Denmark, Sweden, the Netherlands, Belgium, Ireland and Luxembourg. This sort of cooperation is a good idea – the principle is to develop an integrated offshore grid which should mean a more coordinated, more efficient configuration. However this is not what is happening in practice – each country is building offshore wind farms in a piecemeal way, and connecting each one in a point-to-point manner. So these regional initiatives are a good idea, but they need to make a difference to what actually gets built. Therefore they should not just be agreements between national governments. They need to have industry, regulators and NGOs on board too, and to have a more ongoing role through the implementation phase. This would help to green the proposals and to ensure they are implemented, and prevent damaging or ill-informed proposals coming forward.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

Technology performance and cost-competitiveness - System integration - Other (please specify)

-multiple choices reply-(optional)	
Please specify which other key challenges	
-open reply-(optional)	
<p>For the sake of an effective European climate policy, serious research and support for sustainable forms of technology that bring down emissions with the lowest possible impact on their environment is crucial. Sustainability considerations should be central to the SET plan. Low carbon technologies should only be stimulated in their development and wide scale deployment if their overall sustainability can be ensured. Two issues should be looked at: (i) direct land use impacts - the avoidance of land use impact or the potential to limit this land use impact through proper planning should be put forward; (ii) GHG accounting: further research is needed on the full carbon cycle of renewables - displacement and carbon debt should be key areas of research.</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>The EU should be a frontrunner on the full understanding of the life cycle of renewable energy forms, and reflect this in the legislative framework for financial support. Therefore, it should develop instruments that help move forward this research, knowledge and understanding. Specific attention should be given to direct and indirect land use change and carbon debt.</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?</p>	
-open reply-(optional)	
<p>BirdLife favours technologies that deliver decarbonisation and with the lowest possible impacts on the environment. These should be the main criteria to determine which additional measures and/or instruments should be developed. Our 2011 report 'Meeting Europe's Renewable Energy Targets in Harmony With Nature' identifies a broad range of technologies for which these two criteria can be met. It also identifies a small number of technologies for which we do not consider worthwhile carbon savings will be made, given the associated financial and environmental costs: these include liquid biofuels, large new hydropower schemes and high-head tidal barrages. While we do not support incentives for deployment of these technologies, we strongly support further R&amp;D to find ways to sustainably harness tidal power and to decarbonise road transport.</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)</p>	N/A
<p>J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?</p>	
-open reply-(optional)	
<p>No. Assistance should be directed in an intelligent way to enable energy system-wide decarbonisation to 2050, while at the same time ensuring that subsidies for fossil fuels are phased out and that external costs are incorporated in the prices paid by the users of energy and transport. It will need to be tailored to the specific stage of development of the technologies in question, based on assessment of future potential to contribute to decarbonisation without significant adverse ecological impacts.</p>	

<b>IDENTIFICATION</b>	
<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p>	<p>Claus Händel - EVIA European Ventilation Industry Association - secretariat@evia.eu</p>
-open reply-(optional)	
<p>2. Are you responding to this questionnaire on behalf of /as:</p>	<p>Industry</p>

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
The most important aspect is that the Directive must not be technologically prescriptive. Specific technologies need to be addressed. For example, the use of ambient heat is very much linked to heat pumps. While there are many other existing technologies, such as free cooling, heat recovery and indirect evaporative cooling, etc. The use of waste and exhaust heat in heat recovery has to be addressed as well and in the same way. There is no technological reason or argument to handle exhaust air recovery differently from ambient air. Exhaust air becomes ambient air if it has left the building and it is actually more efficient to capture exhaust air directly than ambient air.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
Any financial support has to be technology neutral. That means a share of renewable energy shall be calculated on open technology base and this percentage has to be supported.	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply- (optional)	N/A
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
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Yes this is completely different. We speak about heating and cooling in buildings. This has to be linked with other directives in the building sector (EPBD, CPD, etc). There is a need for consistency between EU regulations and directives in order to avoid overlaps and contradicting legislation.	
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B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States need to open their support schemes to renewable generation from other Member States
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Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
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The definition of renewable energy should be technology neutral and the targets to be set and discussed on a common approach. For example, the consideration of the total percentage of renewable energy or the reduction of the primary energy factor.	
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, all support schemes distort competition to a similar extent
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification
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C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
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C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of public support

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

The treatment of Heat recovery of exhaust air and the use of ambient heat. Evaporative cooling systems (direct and indirect) in ventilation and free cooling technologies.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The two have to go and to be promoted in parallel. Both approaches should be technology open and remain technology neutral. The same calculation rules should be used based on the same product performance data.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main

barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
G.2.1. Please explain your answer -open reply-(optional)	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	
H.1.1. Please explain -open reply-(optional)	
<b>I. REGIONAL AND INTERNATIONAL DIMENSIONS</b>	
I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	No (please specify how they should be amended or which elements added)
Please specify how they should be amended or which elements added -open reply-(optional)	
The fact that different product performance data are used for different technologies. See comment in F.3	
I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	No, the EU should first focus on developing its own renewable potential
I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	N/A
I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	N/A
I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)	
I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the	

North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

DCNS

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

France

<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
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## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>Yes, a combination of EU and sectoral level targets is appropriate</p>
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Europe has to remain a world leader in climate change mitigation and more generally at the forefront of sustainable development. But at the same time, Europe must negotiate with its partners so that they also agree on ambitious targets to share common goals and to avoid competition distortion. A quota system could be developed on the European level to determinate the participation of each renewable source to the energy mix. For instance, Ocean energies would have to furnish a certain percentage of the amount of energy produce in Europe per year. A strong European political commitment is required. It is indeed a positive signal for investors as it reduces uncertainty. For emerging sectors such as renewables, it is important to promote the necessary investments. Indeed, this sector has a huge potential to generate massive employment perspectives.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability</p>
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## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

Yes, financial support will remain necessary after 2020. But it should depend on the closeness of the technology to commercial development and market penetration. The case of Ocean Energies: after 2020, the different technologies (ocean thermal Energy Conversion, wave, tidal, floating offshore wind) should be at a commercial development phase but might not be fully competitive yet The EU will need to support renewables by creating a dedicated ocean energy policy, on a long term basis; this should allow accelerating the decrease of the learning curve.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes -</p>
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<p>best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)</p>	<p>Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)</p>
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>To make support schemes more market oriented, it is important that EU institutions (Commission, the European Investment Bank) and Member States continue to propose a wide range of instruments, accessible to the private sector, covering the different needs of the renewables: - Feed-in tariffs, - Tendering - Loans - Green certificates: an EU Green certificate trading system could be an interesting solution. It would offer new opportunities to the private sector which would be encouraged to invest more in renewable energies. However, as such system tends to favour the technologies with the lowest production costs, a banding system should be established (i.e. a more generous allocation for less mature technologies). - Etc.</p>	
<p>Please specify for which technologies (if applicable) to phase out support schemes over time</p> <p>-open reply-(optional)</p>	
<p>Support schemes should take into account the long term specific requirements of floating offshore wind, wave and tidal energy, and Ocean Thermal Energy Conversion (OTEC).</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with benchmark values for support level per technology per Member State</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>No</p>
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>Ocean energies (Ocean Thermal Energy Conversion, Floating offshore wind, wave and tidal energy) have the capacity to become major contributors to the EU Energy mix. They represent a specific sector which requires significant investments and a specific EU policy in order to ensure its full development. Although it might appear risky and complex, it also offers a great potential of energy production that can't be left apart by the European Union. The EU should make sure this kind of renewables have enough time and resources to steadily reach the commercialisation stage.</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes</p>
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>No, support schemes do not have a significant distorting impact on competition</p>
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification</p>

following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Despite the will of the French government to simplify the administrative procedures regarding the permitting of marine energies development, it remains a complicated and long procedure and the timeframe to obtain all the required authorisations can be very long (sometimes 5 years!). Operators have to pass through different permitting procedures and different interlocutors whereas in other EU countries, one-shop stops already exist. Marine energies are an emerging sector in which technical specifications are not stabilised yet. But work is in progress within the International Electrotechnical Commission (technical group 114) to define common standardisation and normalisation rules. The EU should recognise and support this initiative. Lack of information on support schemes: many support schemes exist at an EU and national level but the information is not always easily accessible which can prevent private actors from applying to calls for projects. Communication tools could be developed to disseminate information on existing instruments (common websites and procedures for instance). Training and qualifications: new jobs will be required in emerging sectors such as ocean energies. New qualifications need to be supported in Member States. The EU could also encourage exchange programmes for students but also for employees.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	
<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)</p>

Please specify which instruments incentivising investment -open reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	<p>Costs/lack of financial support - Lack of awareness - Lack of public support - Lack of capacity (installers, other)</p>
<p>F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>

Please specify which other pathways -open reply-(optional)

Sea Water Air Conditioning (SWAC)

<p>F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)</p>
<p>In the Ocean Thermal Energy (OTEC) Roadmap, it is planned to develop by-products: in addition to electricity, OTEC plants can produce Sea Water Air Conditioning (SWAC), but also hydrogen.</p>

## G. RENEWABLES IN TRANSPORT

<p>G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)</p>	
<p>G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)</p>	

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

<p>H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)</p>	
<p>H.1.1. Please explain -open reply-(optional)</p>	

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

The current system of cooperation mechanisms could be reinforced by highlighting new cooperation experiences in the following fields: support to R&D, regional cooperation based on specificities: wave and tidal in the North Sea and the Atlantic, OTEC in the Caribbean and outermost regions (many islands), etc.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Energy is a key challenge for neighbouring countries but also for developing third countries. Renewable energies, in addition to producing clean energy, have the advantage of guaranteeing energy at a reasonable price. European Funds should have an energy dimension and support renewables projects in the third countries which have strategic and economical relations with the EU. Ocean Thermal Energy Conversion guarantees a baseload flow of power to the grid for areas situated in tropical and equatorial areas. Dedicated support schemes, specially adapted to outermost regions and islands should be put into place to support both technical and economical specificities of those areas. These programmes would benefit developing countries but also the EU industry which is active in this emerging sector and could reinforce its position in the global competition.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

N/A

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

Specific energy programmes in isolated areas.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Floating offshore wind has a huge potential in the Mediterranean.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Yes, the political impetus given by these initiatives is a positive signal for investors. But it should be accompanied by the European

Commission which should play a coordination role and develop some specific programmes to implement these initiatives. Other areas such as the Atlantic Area for floating offshore wind, wave and tidal energy, the Caribbean and outermost regions for OTEC, etc. could also benefit from EU strategies. In a pragmatic perspective, an effort should be made to involve all relevant stakeholders, such as NGOs, but also the private sector so as to define the priorities and the instruments of these strategies.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

With regards to floating offshore wind, it has a huge potential and several advantages compared to fixed offshore wind: bigger potential (three times more wind available) and less use conflicts. But this technology needs support to foster their development and accelerate the decrease of the learning curve (i.e. specific funding for pilot arrays).

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Ocean Energy (Ocean thermal Energy Conversion, floating offshore wind, wave and tidal) should be included in the SET Plan in order to support future developments: A great potential: the world electricity production is nowadays 19 000 TWh/year: some studies show that OTEC could produce between 10 000 and 80 000 TWh/year, covering between 0.5 and 4 times the world needs. Thus, marine energies could become a very important part of the energy mix and provide a clean energy. With regards to wave energy, it could provide 1 400 TWh/year and tidal could produce approximately 450 TWh/year A technology trajectory in line with the 2020 perspective: most of ocean energies should be close to the commercial scale by 2020. The Set-Plan's 2011 Technology Map already mentioned that marine energies such as wave and tidal energy and OTEC will be commercialised by 2020. Help the EU industry to become a global leader: Europe is already playing a key role in this sector. R&D is very active and companies such as DCNS have the ambition to become one the global leaders in ocean energies. Besides, several Member States such as the UK, Portugal, Ireland or France are engaged in the definition of national strategies to promote Ocean Energies. An EU industrial initiative would allow a better coordination among the different actors, economies of scale, define joint programmes, etc.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Ocean energy requires more attention and support on the European scale. This kind of renewables tends to lack recognition, which could lead Europe to lose a great opportunity to become the world leader in clean energy production.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

DCNS agrees with a result oriented strategy when it comes to technology development. Investments in technology development should lead to commercial opportunities and the perspective of creating an industrial sector and generating massive employment.

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Eneco België
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	Renewable energy is necessary for several reasons: - To avoid lock-in effects of planned fossil energy plants; - To counter the ever growing scarcity of fossil resources; - To ensure security of energy supply As long as CO2 emission prices do not fully reflect the external costs of emission, separate targets for renewable energy are necessary. These targets should lead to a stable investment climate for investors in renewable energy production. A mandatory target for renewable energy sources post-2020 is therefore essential, together with mandatory targets for CO2 reduction and energy efficiency. Following the First 'Climate and Energy Package' (adopted in 2009) and the forthcoming EU Energy Roadmap 2050, it is essential to bridge the policy gap between 2020 and 2050, in order to allow the industry to create a sustainable and affordable pathway to reach the EU's objective of 80-95% carbon emissions reduction by 2050.
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	1. Measures like state guarantees can create leverage effects and increase the investment capacity for the renewable energy sector. 2. Strengthening / recalibrating the ETS by setting aside allowances because: - The economic crisis has significantly impacted the effectiveness of the EU ETS as seen by today's low level of trading and carbon price; - Energy savings resulting from the implementation

of the measures proposed in the Energy Efficiency Directive will have the unintended consequence of causing the collapse of or tremendous decline in the carbon price; A well functioning ETS is essential in order to spur innovation and to drive invest in renewable energy.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will continue to be necessary to support most renewable technologies post 2020. We think that more technologies than at present will have reached complete grid parity, as a result of (1) greater scale, and (2) the learning curve. However at 2020 we do not expect that CO2 prices fully reflect (3) external cost. Therefore support schemes for renewable energy are necessary post 2020. Support schemes should in principle not make choices for certain technologies. At the same time, the level of support should be dependent on the level of grid parity of the technology. In order to come to cost effectiveness Research, Development & Deployment funds play an important role. Temporary fiscal exemptions can also play an important role

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Support schemes can only be more market oriented if they can better keep up with the learning curve. At the same time, and this is especially true in Belgium, if the RES targets are not efficient enough, there will be no scarcity, and the system will collapse. It needs to be underlined that however the market can play an important role, the market alone will not solve all problems. Regulation (targets, level of support, ...) will continue to play an important role.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Eneco België is convinced all support schemes for all technologies should be phase out over time. (wether the technologie is RES, fossil, or nuclear)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Financial support schemes in the EU should follow converging paths . But not necessarily entirely. Within a common framework there must be room for national governments to set support tariffs suitable for national or regional enhancement.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

These three sectors are internationally or regionally/locally oriented in the order: Transport, Electricity, Heating and cooling. This should be taken into account when designing a common approach.

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	<p>Member States need to open their support schemes to renewable generation from other Member States</p>
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Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)  
 -open reply-(optional)

Feed-in systems like in The Netherlands and Germany, where compensation is directly divided to renewable energy generation, are not suitable to open for generation from other Member States. Support schemes that are based on renewable obligations and the market value of green certificates are more suitable for a common approach. A European market of green certificates would enable energy companies to fulfill their renewable obligations regardless of national frontiers. It would lead to the effect that renewable energy generation plants are located in the most cost effective areas. A bottom-up convergence on the basis of the Norway-Sweden joint certificate scheme is a good example.

<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>
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Please specify which support schemes you consider most distorting -open reply-(optional)

All support schemes (whether a renewable obligation scheme or a feed-in system) need to be carefully designed in order to prevent wind fall profits of the lowest cost technologies. Every support scheme needs to be monitored carefully in order to prevent a market distorting impact. This is an important issue on a national level and will be if a European system would be introduced.

## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing</p>
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C.1.1. Please provide explanations and specific examples where available  
 -open reply-(optional)

The long procedures for licenses for wind and biomass plants restrict the development of renewable energy. The same is true for licenses for grid development. Once a license is granted, this can be appealed by (practically) every citizen. It is frequently done so. An appeal procedure can last several years.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other</p>
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still</p>	<p>Grid connection rules - Balancing rules - Curtailment regime</p>
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create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	
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Network operators can misuse the grid connection rules on detailed technical issues as reactive power or fault ride through capacity. This delays or blocks new connections for renewables. The real problem is their reluctance to develop and extend their grids. As Belgium faces a lack of capacity on the grid, RES operators are confronted by network operations with the demand of flexible connections. As grid development has long lead times, it is questionable if this issues can be solved by 2020.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
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D.2.1. Please explain why -open reply-(optional)	
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Priority dispatch and obligation to counteract curtailment applies not only for TSO's but also for DSO's

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase flexible back-up capacity (capacity payments ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Other (please specify)
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Please specify which other measures -open reply-(optional)	
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Capacity payments can increase flexibility. However, it should not favour old inefficient power plants to stay on-line, but instead stimulate (new) efficient power plants like CCGT. Market based solution like trading closer to real time are also OK.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk – producers of renewable energy should operate without any aid
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E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	
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E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Other (please specify)
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Please specify which other barriers -open reply-(optional)	
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Lack of supportive tax policy – e.g. carbon taxes on heating fuels. Lack of incentives for RES Heat commensurate with those for RES electricity. Proper definitions and accounting rules when it comes to proving that certain solutions (in-building or rather on a wider scale including heat transport) fulfil the legal quality requirements. Adaptation to climate change.

F.2. What pathways do you consider to be the	Biomass - Geothermal - Solar thermal - Electrification together
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most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	with higher share of renewables in electricity production
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

(1) Proper regulation of the monopoly aspects: tariff cap that leaves room for project development; (2) Consistency between building regulation and heat supply enhancement; (3) Setting targets in line with those for electricity and transport; (4) Turning ETS & non-ETS regulation into a stimulus rather than an obstacle for heat supply.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)

Yes, In order to meet the mandatory targets on renewable energy Eneco thinks there will be huge volumes of import of biomass streams from third countries towards EU. This development will only be sustainable when the same level of sustainability criteria are imposed on all market actors and member states. So this has to be arranged on EU level. At this moment sustainability criteria are only imposed on biofuels for transportation. This should be extended to solid and gaseous biomass for energy and also to the exploration and production of fossil fuels. The present sustainability criteria are limited to Greenhouse gas reductions savings, biodiversity and carbonstocks. No criteria are available with regard to social sustainability (wellbeing, welfare and safety). There are also no criteria formulated on indirect land use change (ILUC). Environmental criteria, when producing biomass/biofuels in third countries are not taken into account either. Eneco thinks these issues should be addressed when additional requirements will be introduced. There are no sustainability criteria applicable to solid biomass and gaseous biomass at this moment. Eneco thinks sustainability criteria for all biomass, biofuels and gaseous biomass should be made mandatory on European level. To create a more level playing field between renewable and fossil fuels (and thereby internalizing environmental costs) it is needed to impose the same sustainability criteria to fossil fuels.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	
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<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>Such cooperation should definitely be fostered. It will be more efficient in terms of grid development and optimize cost allocation for grid infrastructure. It will also be beneficial to security of supply.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply- (optional)</p>	

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Matthew Ledbury, Community of European Railway and Infrastructure Companies, matthew.ledbury@cer.be

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

B.2. If renewable energy sources require support post-2020, how do you think this can

<p>best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply- (optional)</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs

G.2. What sectors of transport do you consider to be the most promising for further increasing

Rail

the share of renewable energy? -multiple choices

reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

Renewable energy is overwhelmingly electric: about 80% of European rail traffic is already undertaken using electric traction, and there is no technical obstacle to a 100% electrified rail network that could be powered entirely using renewable energy. The technology is well-developed using overhead catenary power lines or ground-level third rail, unlike the battery storage problems that have inhibited the development of electric cars. The main barrier against a stronger uptake of renewable energy in transport is cost. Currently, renewable energy is still considerably more expensive than standard thermal energy. Having substantial 'green energy' premiums makes the product less appealing to customers - the advantage of being CO2 efficient must become cost-efficient as well. The easiest way to do this in transport is to ensure that all modes of transport are charged the external costs of the fuel they use, in particular for CO2 emissions. Electrified rail is the only mode of transport which currently pays for CO2 costs due to the inclusion of electricity in the EU ETS; road transport, which is responsible for over 70% of CO2 emissions in the transport sector is unaffected by the ETS. Economic tools can be used to change behaviour and encourage a more environmentally-responsible approach including greater use of renewable energy, but as the example of the ETS shows, this is not happening in transport.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the

rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Gunnar Boye Olesen on behalf of International Network for Sustainable Energy - Europe

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-

European organisation

(optional)	
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
The experience from the RE-target of 20% for 2020 is good, and in our opinion a better and more successfully than with the renewable electricity target for 2010 that missed the other sectors or with the renewable in transport targets for 2010 and 2020 that do not give the countries the flexibility to choose the most sustainable development. Non-binding targets, as the target for co-generation, have shown the weakness of the approach of non-legally binding targets.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
After 2020 the large share of renewable energy will require continued public support which is best realised with public participation in the expansion of renewable energy, e.g. with broad ownership and with public participation in planning. Also integration of large shares of renewable energy will require substantial attention after 2020.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
Emerging technologies will still need direct support, such as wave power. Expensive technologies such as solar PV will probably also need support mechanism post 2020, but with the rapid decrease of PV prices in recent years, it might not be the case for PV anymore by 2020. For other technologies (such as biomass, windpower, solar heating), a fair treatment is important including integration of environmental costs in prices. There might be need for additional support for integration into grids. The basis for this answer is that there is a fair pricing of energy where the external cost of fossil fuel and nuclear energy is included in the price. Currently this is held back a number of factors, including in some countries the significant lobby of the fossil fuel and nuclear sectors.	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Phase out support schemes over time (please specify for which technologies if applicable)
Please specify for which technologies (if applicable) to phase out support schemes over time	

-open reply-(optional)

With integration of environmental costs into energy costs and increasing fossil fuel prices, the need for support for renewable energy will diminish. It will not disappear until 2020 as some renewable technologies will not have reached market prices by then, because of geographical differences (e.g. Solar have higher yields in Southern Europe than in Northern Europe, but we should still promote solar in Northern Europe), and because EU countries are not all likely to integrate environmental costs in ways that facilitate investments in renewable energy (EU-ETS is a good example of a scheme that does not support renewable energy because of fluctuating and low prices for emissions)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with benchmark values for support level per technology per Member State
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Transport is different as the most energy efficient way of changing transport to electricity is via electricity and bi-cycling. This is partly reflected in the EU transport white paper from 2011, where phase-out of traditional cars until 2050 is proposed for cities. Support mechanisms for renewable energy in transport should then in practice be support for conversions away from combustion engines in transport, in which case benchmarking of support levels might not be meaningful.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, all support schemes distort competition to a similar extent
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of information on support schemes or other - Lack of credible and certified training and qualification
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

In some EU countries small renewable energy plants are faced with same procedures as large power plants, this holds back the development. There is a general lack of credible, independent information for small investors (households and SMEs) that can benefit from small renewables installed locally (solar, heat pumps, small biomass) In many EU-countries the available training courses are too few to cover the raising demand for qualified installers etc. Other: In some EU countries is a lack of funding, not the least for public buildings and common solutions with district heating.

C.2. Which policy response to the problems	Strengthen rules to intrude more directly into Member States
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identified above do you consider appropriate? -single choice reply-(optional)	procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
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D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase flexible back-up capacity (capacity payments ...) - Accelerate infrastructure development and interconnection - Increased availability of storage
--	--

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

TSO's should have the right to curtail production when necessary for balancing purposes and with respect for the priority access of renewable energy over non-renewable supply. This right should be exercised for medium and larger renewable energy producers, e.g. above 1 MW.

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Smart grids to allow users to respond to signal from TSO and market prices, new type of power uses (heat pumps, hydrogen production, electric cars) must be integrated in smart grids and have heat/ hydrogen storages respectively batteries to allow interruptible demand without reduced service.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Lack of awareness - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

In some parts of EU funding is a key problem, even when the installations are cost-effective when they get appropriate funding.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

Heat pumps using mainly renewable electricity (with heat storage capacity they can consume most when there is a higher share of renewables in the electricity mix)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The renewable energy supply must be subject to energy efficiency requirements via building regulation, Ecodesign regulation, green public procurement etc. As heat demand goes down with heat efficiency, more care should be taken to avoid over-sizing. Low-temperature heat supply should be supported, in particular to increase the yield of heat pump systems.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Lack of awareness - Lack of suitable information - Other (please specify)

Please specify which other barriers -open reply-(optional)

Overemphasis on road transport that is harder to change to renewable energy than train transport with electric trains. For energy efficiency and renewable energy rail-based transport is the optimal with trains for long-distance transport and trams for city transport

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail - Water

G.2.1. Please explain your answer -open reply-(optional)

Railways can use electricity with high efficiency without need for batteries. This is the most efficient and environmentally benign way of changing transport to renewable energy, except for bi-cycling. Ships are actually also a promising user of renewable energy with supporting sails, onboard PV, and capacity to carry batteries and hydrogen with stored renewable energy.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)
--	---

Please specify which criteria

-open reply-(optional)

Biomass should not be imported to the EU from countries that has problems with deforestation and land degradation as the biomass produced in these countries should first meet the needs of these countries to avoid their unsustainable practices. Biomass use should have considerably lower life-cycle greenhouse gas emissions than fossil fuel use, not more than 1/3 of the average fossil fuel use it replaces. Biomass use should not lead to reduction of biodiversity on national levels. Additional criteria are necessary in countries with special conditions, e.g. countries with low biodiversity Biomass production should not threaten food production for national food supply.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	N/A
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
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Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Transition to renewable energy has two main objectives on reducing global warming and increasing security of supply, both of which are global issues. Therefore EU in its cooperation with and support for other countries should promote renewable energy in these countries, mainly to replace their own fossil fuel use.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	No (explain why)
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Please explain why -open reply-(optional)

Import of electricity from Africa is not a necessity to cover EU with renewable energy, and there is no need to favour it over other, more local, and probably cheaper solutions. Large-scale energy imports from Africa through centralised power lines will also reduce security of supply.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Agreements between the EU and third countries
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the

Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

It could use the experiences from the EU: assisting the countries to increase use of renewable energy with targets and measures as is done in the renewable energy directive. In addition focus should be on renewable energy solutions that can reduce poverty in these countries caused by the increasing fossil fuel prices. For developing countries must also be focus on basic supply with renewable energy to those that lack this today. What should be prioritized: Cooperation on support policies for renewable energy, demonstration of renewable energy, training and capacity building

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

While the plans seems to have over-emphasized on off-shore electric networks, the ideas are definitely important for expansion of off-shore windpower.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Biomass technologies can be developed much more to increase efficiency, reduce environmental effects, and increase uses other than heating (CHP, industrial processes). Solar heating need better development of system integration including seasonal storages.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Geothermal energy that has an important potential in many EU countries. Wave power also has an important potential in several EU countries

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Intelligent Energy for Europe and EU research programs (FP7 and earlier) have been important to promote renewable energy in cross-border cooperation among EU countries, but the priorities have left some solutions out and have focused too much on large - scale solutions.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

In general yes, but as technologies are different, it is a problem to have too strict rules on this applied universally.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Electricité Réseau Distribution France (ERDF), Email:  
ines.mosgalik@erdfdistribution.fr

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

France

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate, it can be detailed through sectoral indicators. The global economic context is very uncertain and variable, this excludes a fix and rigid target. The gap between expectations of stakeholders induced some overreactions on supply side (e.g. PV bubbles) and sharp reactions in support schemes, mainly for financial sustainability reasons. Thus, promoting a sound, realistic and stable vision at medium term linked with economic and environmental expected impacts would contribute to the stabilisation of anticipations and possibly to a smoother development of those energies. This vision should be released in consistency with smart-grids' development.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Regarding the case "facilitation policies", the policies listed below should be added: - Simplification of administrative procedures for network development. - Support (financial and legal) for innovation and smart grids development. - Legal support to process coordination at regional level development of network and RES (such as the right for network operators to deny grid access in areas saturated by connection demands when nearby unemployed capacity exists, and/or better connection costs billing to signal favourable/saturated

areas). - Incentives to develop small size RES close to consumption. Regarding the case "other", the following issues should be added: - Obstacles to investments in renewables and grid infrastructure must be removed consistently. - Further RES deployment must take place in a manner that happens in line with the requirements for electricity system stability.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support schemes are designed to facilitate the emergence of a new technology. It thus is necessary that the maximum amount and period of time to which they apply is clearly defined. In consistence with this general statement, renewable incentives should decrease sharply over time to take into account cost reduction in RES generation, to assure investors regarding the stability of EU policies and to prevent price distortions in the long run.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Development of buy back obligations unrelated to market prices induces major risks of prices distortion. Thus, the convergence of buy back prices to market prices should be forced over a shorter period of time, contract duration might be shortened and/or prices revised. Adaptation costs of networks are also to be taken into account. Priority must be given to projects that are close to and synchronous with consumption.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Once market parity is reached, operational support schemes are no longer needed.

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with EU-wide benchmark values for support level per technology</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>N/A</p>
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Regarding question B.3.: Full transparency of national schemes coupled with a comparison at EU level with strong methodological support is a must. Regarding question B.4.: The prerequisite would be an EU agreement on a common energy policy. Recent changes in Germany have had a significant impact on networks without agreement and coordination with other EU member states. Such a common policy frame being set-up, the structure of financial support schemes could be organised in a manner that treats investments equally. This does, however, not imply the same financial support as local conditions (including tax regime) may still have to be considered. Regarding question B.5.: Electricity has some specificities, since the financing is eventually transferred to the bills of consumers. The impact of support schemes on consumers' bills should be assessed and compared EU wide and somehow harmonized with public spending/debt monitoring.

<p>B.6. How do you see the relation between support schemes for renewable energy and the</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits</p>
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requirements of the internal electricity market for from national schemes  
the period after 2020 against the background of  
a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)  
Yes, some support schemes are more distorting than others  
(please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes with a direct impact on price market (e.g. buy back obligations) are more distorting competition than others. Support schemes with an indirect impact (e.g. fiscal incentives for development after which generation submitted to competition on markets) are less distorting.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)  
None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)  
Other (please specify)

Please specify which other rules -open reply-(optional)

In order to make the electric system operable and safe with large amount of RES that are partly controllable and always variable, strategy for RES integration must shift from unselective support to selective support, taking into account system technical constraints: -  
Dispersed generation close to consumption should be encouraged, dispersed generation far from consumption should be deterred,

support to RES in areas with no consumption should be focused on large units that can afford important infrastructure development and sophisticated functions (remote control, ancillary services capabilities ...). - Units and facilities should provide functions needed by system stability according to their side.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
 Increase availability of demand response (smart grids ...) -  
 Accelerate infrastructure development and interconnection -  
 Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

- RES units/facilities must have capabilities to supply services to the system according to their size. Those capabilities shall be dealt with at European level for cross border network issues (only frequency management) and at national level for non cross border network issues (e.g. voltage management and other issues ...). - National targets for development of RES should be monitored at EU level in order to check for possible inconsistencies (mainly national systems relying on neighbours to guarantee safety). - Intermittent generation share must be taken into account in frequency reserves allocation among TSOs (not only size of the system).

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should bear greater responsibility for system costs

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Develop demand response not only to market signals (related to centralised balancing) but also to network constraints that can be local and technically driven rather than market driven. Thus market arrangement must be made accessible to network operators. Market arrangement designed for centralised balancing must be checked for possible network constraints.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling

beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of infrastructure

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added  
-open reply-(optional)

Concerning the electric system, system security preservation must be included as an objective.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Needed investments in networks should be assessed, prioritized and if need, they should be supported by regulatory framework at national levels in order to guarantee system security, operational security and quality of supply. Network costs must be identified and possibly reflected to generators through grid access rates for injection. They must be taken into account in efficiency assessment for RES. All countries must be implicated according to their share of RES.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	APPA Biocarburantes (Spanish Biofuels Association) ; biocarburantes@appa.es
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Spain
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	As the current target system for energies from renewable sources will expire in 2020, new and more ambitious mandatory objectives need to be established as soon as possible with a view to 2030, in order to enable business sufficient time to plan ahead. These should consist, one the one hand, of a global mandatory renewable energy target and, on the other, of a sectoral mandatory target for the share of renewable energy of at least 20% of the final energy consumption in transport in 2030. A specific mandatory target for transport is still necessary, given that this sector remains the largest end-use sector emitting CO2 and the reductions achieved so far have not been very significant. According to the European Environment Agency greenhouse gas emissions from transport (excluding international aviation and maritime transport) grew by 28 % between 1990 and 2007 in the EU. Furthermore, renewable energies' penetration in transport has been rather modest so far, in comparison with the electricity sector for instance. The target proposed for transport is perfectly feasible, given that the use of renewable energy in this sector is highly likely to grow at a faster pace post-2020 than in the years up to 2020 and that the consumption of biofuels, for instance, will have increased already from 4,7% in 2010 (Eurobserv'er, 2011) to more than 8,8% in 2020 (according to the National Renewable Energy Action Plans).
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Better financing possibilities

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will	Yes
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continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

In the transport sector, financial support will still be necessary for biofuels post 2020, given the extremely limited take up of higher blends (for instance B30, E85) in most Member States, as well as the modest penetration of advanced biofuels (such as cellulosic bioethanol or algae biodiesel) that is expected for 2020. The increasing feedstock prices are also driving up total production costs for existing biofuels, in comparison to the fossil fuels replaced. While the latter continue to receive generous subsidies from national governments despite being deployed at a very wide scale, renewable energy technologies will definitely need to benefit from financial support until they reach full technological and market maturity. In the case of biofuels, financial support should mainly consist of fiscal incentives and funding for R&D purposes. The current possibility for Member States to establish fiscal incentives for biofuels should be extended at least until the end of 2023 and then be phased-out gradually, after adequately assessing the market situation for the different types of biofuels. If these benefits could not be given to all biofuels, they should at least be applied to higher blends (e.g. B30, E85) and advanced biofuels. As regards the alignment of financial support schemes for biofuels at EU level, it would be preferable to allow each Member State to decide upon the level of support to renewable fuels in transport taking into account its own market situation.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the

most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information - Other (please specify)

Please specify which other barriers -open reply-(optional)

The wider uptake of higher biofuels blends (e.g. B10, B30, E85) is impeded by the lack of comprehensive technical specifications at EU and national level. In the case of B10, for instance, although there is an EC mandate since 2006 requiring CEN to revise the EN 590 to allow 10% (v/v) of FAME, there has not been any progress so far in elaborating this standard. The EC should establish strict deadlines for the development of technical specifications at EU level. If this work is not completed within the deadline set, the Commission should adopt these technical specifications itself. The unwillingness of vehicle manufacturers to put on the market vehicles that are guaranteed for the use of higher biofuel blends is also an important barrier. This is further complicated by the lack of information to consumers in all Member States on the vehicles that can use higher blends. Car manufacturers should thus be incentivised/obliged to introduce these vehicles in the European market (just like they did in other markets like Brazil, for instance) and adequately inform consumers. Another crucial barrier is the lack of coherence in EU policy when promoting renewables in transport: direct ethanol-gasoline blends are limited by the Fuel Quality Directive vapour pressure provisions, biofuel producers may be sanctioned for indirect land use change, while the reformed Common Agricultural Policy plans to set-aside 7% of EU agricultural land as "ecological focus areas".

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Air

G.2.1. Please explain your answer -open reply-(optional)

Road passenger and freight transport –which currently account for more than 90% of all transport emissions in the EU- represent the most promising sectors for significantly increasing the share of renewable energy. It is expected that the majority of engines available in 2030 will require liquid fuels, although their molecular composition might have evolved from today's fuels. Biofuels are readily available and compatible with existing technologies and infrastructures. Higher biofuel blends can already be used in passenger and goods transport, however, a combination of administrative barriers and lack of fiscal incentives prevents their wider use. There is great potential in the introduction of B30 and E85 in road passenger transport, while the generalized use of B100 in long-distance freight transport would not only ensure significant greenhouse gas emissions, but also significant savings for the sector. The aviation sector also presents an enormous potential for the increased use of renewable fuels. According to leading aircraft manufacturer Airbus, second-generation bio-jet could provide up to 30% of all commercial aviation jet fuel by 2030, with the help of effective policy incentives and significant R&D investments. The "European Advanced Biofuels Flight path" initiative is a good step in the right direction, although the roadmap included therein should also be extended to 2030, by establishing ambitious consumption targets for sustainably produced drop-in biofuels.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

Although the effects of the implementation of strict sustainability requirements for biofuels and bioliquids are yet to be seen, it is highly likely that they will lead to increased GHG emissions savings and to a more responsible feedstock cultivation. These considerable benefits will be entirely offset, however, if other sectors will continue business-as-usual to generate emissions and consume the same

biomass resources, without making any comparable efforts to reduce their carbon footprint and negative impacts on the various ecosystems. No additional sustainability criteria (including requirements related to emissions from indirect land use change) should be adopted for biofuels without firstly monitoring and assessing the effects of other land-use products and industries. The focus in the post-2020 period should be on the consolidation of the existing sustainability scheme for biofuels and bioliquids, and on applying the same stringent mandatory requirements to all uses of biomass (both energy and non-energy) and to fossil fuels. This should be done by adapting the requirements to the specificities of each sector and ensuring that they will not create an excessive administrative burden for the industry, especially for small biomass producers. The EU energy policy should be based on a coherent life-cycle and land-use approach to be applied in a non-discriminative manner to all fuels (from biofuels to conventional fuels, electricity and hydrogen) and biomass-based products.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be

<p>the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?</p> <p>-multiple choices reply-(optional)</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?</p> <p>-open reply-(optional)</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)</p>	
<p>J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?</p> <p>-open reply-(optional)</p>	

<h2>IDENTIFICATION</h2>	
<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>Olivier JANIN, AREA, olivier.janin@orgalime.org</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>European organisation</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p>	<p>Yes, an indicative and non-legally binding target at EU level is appropriate - Yes, a combination of EU and sectoral level targets is appropriate</p>

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The refrigeration, air conditioning and heat pump contractors' industry believes in setting general targets and to let the market develop the most cost efficient solution to achieve them. However, the past EU and Member State energy policy has sometimes deviated from this principle by giving subsidies in varying height and duration based on different sets of requirements for different technologies. In a situation, where the reduction of GHG emission is wanted and a larger use of RES is aimed for, both targets should be the measurement points for any set of targets to be set.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Legal requirements are currently often an obstacle with regard to their treatment of different technologies in a subsidies perspective. Requirements on efficiency are based on different methods, within and between countries. Having to fulfill these requirements often makes additional tests and development cost necessary, thus limiting the single European market and making a cost efficient development of one product for all EU countries difficult, sometimes impossible. The EU should provide support schemes to overcome the higher initial investment cost. This could be executed via national cooperation partners in the banking sector that understand the specific risk-return ratio.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

This depend very much on the loyalty in the implementation of already decided directives, such as F-gas, EPBD, RES and Eco design. If these directives are fully implemented in all member states, the need for prolonged support will be less.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Successful support schemes follow a set target, are transparent, easy to administer, long term and budget independent. They need to be adjustable to changing circumstances. So for example. if the target of cost competitiveness is reached, it must be possible to stop it. In the meantime a gradual phase out should be set up in order to guide the markets into independence.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be

Yes (please explain how this could be achieved and which

gradually aligned EU-wide? -single choice reply- (optional)	support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
If not there is an obvious risk that the support will be misused creating uneven competition on the market.	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
It would actually be helpful to aim for an assessment of all sectors based on a common structure. This would enable at least a basic comparison of the sectors and would make it possible to see where to best invest/provide support in order to channel available funds most efficiently.	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
As said above there is an obvious risk that the support will be misused for national purposes. By gradually opening the support scheme this might be avoided or at least be reduced.	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
Support schemes that are not very well designed are most distorting. A good support scheme is transparent, easy to understand and use, follows a defined goal and is budget independent.	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Lack of commonly agreed technical specifications - Lack of credible and certified training and qualification
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
Contrary to the aim of the different pieces of legislation being applicable in one European market, Member States are starting to set up additional requirements, often on efficiency and quality. The industry strongly supports a drive for better quality, but believes that identical requirements would not harm installation quality while at the same time making it easier to sell the same type of products across Europe. The general skills level for mainly technicians within the heat pump segment is from a HVAC&R perspective low. Many contractors, and their staff originate from the plumbing industry and have none or just minor knowledge of the complex refrigeration system that is the heart of a heat pump system. We therefore strongly support mandatory training and certification schemes similar to the F-gas Regulation.	
C.2. Which policy response to the problems identified above do you consider appropriate?	Push for more standardisation and harmonisation on EU level or mutual recognition

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

If only considering electricity from renewable sources, this is not applicable from a HVAC&R perspective

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

From a HVAC&R perspective the most important rule is the one related to district heating and district cooling.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

N/A

## F. RENEWABLES IN HEATING AND COOLING

<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	<p>Lack of awareness - Lack of capacity (installers, other)</p>
<p>F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)</p>	<p>Geothermal</p>
<p>F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)</p>	
<p>In order to tackle the increasing energy demand, energy efficiency needs to be in focus. Heat pumps provide both: they make use of considerable share of RES and at the same time use the still necessary auxiliary energy most efficiently. They serve as multiplier in case electricity is coming from green sources.</p>	
<h2>G. RENEWABLES IN TRANSPORT</h2>	
<p>G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)</p>	
<p>G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)</p>	
<p>G.2.1. Please explain your answer -open reply-(optional)</p>	
<h2>H. SUSTAINABILITY</h2>	
<p>H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)</p>	
<p>H.1.1. Please explain -open reply-(optional)</p>	
<h2>I. REGIONAL AND INTERNATIONAL DIMENSIONS</h2>	
<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>No (please specify how they should be amended or which elements added)</p>
<p>Please specify how they should be amended or which elements added -open reply-(optional)</p>	
<p>As not even already decided pieces of legislation such as the F-gas Regulation have been properly implemented by all member states there is some homework to be done before introducing third countries.</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Of course it is of great interest and importance to get also other countries onboard. Especially eastern European countries have a) a great interest in improving their skills, and b) a desire to align with EU regulations. A possible way of coordinating these activities could be through UNEP.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

In time. As said above do these countries have some shaping up related to already decided pieces of EU legislation (e.g. F-gas) before entering into these issues.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of

industry to engage in public private partnerships?

-open reply-(optional)

Small scale RES based heating and cooling should be given specific and continuous support. While the technologies are largely available and developed, still many obstacles exist towards their wide spread dissemination in the market place. RES heating and cooling will be a successful augmentation of RES electricity. While it will be covered partly by the smart cities initiative, it is a building block that requires individual support. Heat pumps have seen tremendous growth throughout Europe over the past 5 years, however the technology still has improvement potential on the component and especially on the system level. Heat pump based hybrid systems enable the use of renewables in virtually 100% of all application fields. Their capacity to provide heating and cooling at the same time makes them the preferred choice in office buildings and commercial applications. Industrial applications are possible, but need further research into new refrigerant pairs to increase the covered temperature range.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Existing measures have been successful, where available, but in general, the number of projects supported in the field of deployment under IEE was limited. Larger funding budgets should be made available to enable more continuous research.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

EASE - European Association for Storage of Energy (info@ease-storage.eu)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

\*\*\* Please note that: The response to the overall public consultation was elaborated by EASE and reflects a consolidated view of its members from an Energy Storage point of view. Individual EASE members may adopt different positions on certain topics from their corporate standpoint.\*\*\* - To ensure that the EU meets its 80-95% greenhouse emissions reduction commitment by 2050 (compared to 1990 levels); - To maintain EU's increasingly challenged industrial leadership in renewable energy technologies; - An unclear atmosphere in Europe will only represent a serious hurdle to European skills and know-how endangering European competitiveness; - Only by setting sector- and technology-specific mandatory targets will industry be able to reach levels of certainty and confidence that enable a smooth transition to a low carbon energy system; - EU binding targets post-2020 are needed as the market and price volatility are very frequently the result of unclear political targets and a mismatch between EU and national ambitions;

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Energy storage is part of the policy elements selected above. It is important to highlight that mechanisms are necessary to provide security to the investors. Subsidies for technologies at R&D stage should be considered as long as they are relatively far from maturity.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

It makes sense to subsidise renewable technologies which have not yet reached competitiveness but are expected to do so. Subsidies have to be phased out when they have gone down their learning curve, and have reached parity with conventional generation.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Renewable energy sources will have to compete in the market with other technologies. More market-oriented support schemes would promote that taking into consideration the lack of volume and maturity of many of these technologies (e.g. from Feed-in Tariffs to Premium Feed-in).

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity,

heating and cooling, transport). -open reply-(optional)	
N/A	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
If a Member State is willing and able to set up support schemes for RES it should not be hindered in doing so. However, especially RES need to be addressed in a European and system integrated manner. This means that RES have to be supported by flexibilisation means such as storage.	
Please explain how it could be achieved for third countries -open reply-(optional)	
Including third countries will provide further opportunities to deploy RES in a more efficient way (e.g. Desertec), provided that the global impact of this action on economic and environmental policies have been thoroughly assessed. A precondition for opening up the support schemes for RES generation from third countries has to be a bilateral agreement.	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	N/A
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
N/A	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	N/A
<b>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</b>	
D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	

Generally speaking, none of the existing rules take into account the technical and economical potential of energy storage. All of them should be revised taking into account the capabilities of energy storage: - Grid connection rules: energy storage is either considered as a load or a generator. These prohibit an effective use of energy storage by grid operators. Furthermore, priority grid access for RES is no more feasible when RES generation exceeds the load. Then different RES would enter direct competition. This could be alleviated or even avoided by energy storage if considered by a new grid access regulation. - Cost-sharing rules: should take into account specific capabilities of energy storage, and namely its ability to provide added value simultaneously to different stakeholders along the value chain. No rules exist today on operation of a storage device by one of the stakeholders (for example DSO), enabling grid services to be valued by another stakeholder (for example TSO). - Balancing rules: need to take into account increasing importance and ability of balancing at local level (at level of distribution grids). - Curtailment regime: rules of curtailment can be totally changed when taking into account energy storage. Typically grid overload or other contingency situations can be limited if generators are coupled with ancillary services capable storage systems.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Priority dispatch and obligation on TSO to counteract curtailment - Other (please specify)

Please specify which other rules -open reply-(optional)

We believe it is necessary to re-assess the grid connection rules in the regulatory framework taking into account current technology developments at both, the level of generation and the grid level. Technical solutions, including but not limited to energy storage, open new ways to effectively integrate increased amounts of (intermittent) renewable energies. They require new modes of regulation between the different stakeholders (production, transportation, distribution, sales, consumption...) going beyond the current scheme of either "grid extension" or "priority access", both of them being not sufficient to reach the set targets. Regulation can refer to: - Conditions of connecting generators and of injecting energy to the grid - Investment of grid operators in MANIFOLD technologies to manage renewable integration, including smart infrastructures, grid extensions, storage, etc. Most importantly, regulation should remove any barrier of current stakeholders to invest into technology innovation and to operate and take advantage of such innovation.

D.2.1. Please explain why -open reply-(optional)

See reply above to "Please specify which other rules".

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

From the EASE point of view, increased availability of storage is "the most important measure to increase the flexibility reserve of the system". Nevertheless, EASE acknowledges the importance of all other means for enhanced system flexibility.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or

specific rules for variable generation?

-open reply-(optional)

The more intermittent RES will get into the system and replace fossil power stations, the more balancing need will occur and flexibilisation potentials will have to be activated at system, demand and conventional generation sites. The most flexible one of these options is energy storage. All in all this increases system costs triggered through the RES - especially due to balancing issues. So it is just fair to have RES generators taking responsibilities for this, when a certain level of RES is reached.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Most important is certainly storage as a single system component. However, storage adds value to a smart grid or if directly assigned to a generator, too, since it will increase the flexibility of this specific component. Consequently also this has to be rewarded.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

-single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

Storage as a single system component is of utmost importance. However, storage adds value to a smart grid or if directly assigned to a generator, too, since it will increase the flexibility of this specific component. Consequently also this has to be rewarded. In addition to this, in some countries like e.g. Germany, RES lose their special remuneration according to the incentivising EEG once they are stored. This is especially harmful for long term storage, which is one option to overcome a longer phase of intermittent RES absence (e.g. during wind calms).

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020?

-multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020?

-multiple choices reply-(optional)

Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

Moreover, adding (thermal) storage to electrical heating and cooling would provide the opportunity of balancing the heating and cooling demand and generation. A better use of e.g. heat pumps should also be envisaged as well as of solar thermal. The development of renewable heat from biomass (including CHP) and of heat pumps should be incentivised. Awareness campaigns and public support are needed.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

N/A

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Storage will be important for the future transport system. The future biofuels tend to have a lower energy density than conventional fuels (e.g. petrol). The operating range becomes therefore a barrier. Producing advanced energy storage can help in overcoming that problem (e.g. hydrogen). In addition, battery storage is vital for electrical vehicles.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

N/A

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

N/A

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

N/A

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

N/A

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

EASE acknowledges that it is sensible to generate RES predominately in these parts of Europe where the potential harvest is largest (i.e. Spain Greece and Italy for solar power or the Northern Seas for offshore wind). However, in a European approach, these areas should deliver much more energy than locally needed. So this energy needs at least to be transported into neighbouring countries. If not it needs to be fed into a European Supergrid. This means investments into grids should not be limited to any region, but made wherever necessary. Likewise, as renewable sources are abundantly available throughout the territory, a well-balanced distributed approach involving numerous stakeholders (producers, installers, operators, users,...) in all countries seems to be preferable over a centralized approach. A well suited option to limit the need of grid extension is generation site located storage, which will help to firm the intermittent renewables for the sake of a better grid usage. One has to take into account that this is nevertheless only one application of storage. Thus there is still the need to globally optimise the location of storage in the system.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
-single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

N/A

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

This specific cooperation should be further promoted. A testing site for energy storage should be added in combination with large scale wind farms from the North Sea to e.g. the Southern countries, thus expanding the solar business.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

EASE believes that all the items mentioned above are challenges to be addressed. Energy storage is necessary for system integration. However, it needs to be further enhanced and become cost-competitive with other technologies. For this to happen, additional research, such as battery chemistry, high temperature materials and high pressure materials.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Better grid integration features of fluctuating renewables by adding storage.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

EASE believes that energy storage should be given priority in the post-2020 perspective, although it does not have an EII up to now. By creating EASE, both industry and the research community passed a strong message of commitment regarding the further development of energy storage technologies. Demonstration projects are running, e.g. in Denmark, France. Energy storage is a common subject for several EIIs but it should have more support on its own.

J.4. How successful do you consider the

N/A

existing measures have been and which have been the main drawbacks? -single choice reply- (optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Technology development should be associated to deliverables. However, one should be careful in establishing deadlines. The immaturity of certain energy storage technologies lead to high risk investments that cannot be simply coupled with precise deadlines. \*\*\* Please note that: The response to the overall public consultation was elaborated by EASE and reflects a consolidated view of its members from an Energy Storage point of view. Individual EASE members may adopt different positions on certain topics from their corporate standpoint.\*\*\*

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Land&Forst Betriebe Österreich, office@landforstbetriebe.at

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply- (optional)

Austria

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

In den einzelnen MS bestehen unterschiedliche Voraussetzungen und Ausgangspositionen für die Zielerreichung bezüglich erneuerbarer Energien. Zur Nutzung der in den MS vorhandenen unterschiedlichen Potentiale ist daher eine Kombination von EU-Gesamtziel und sektoralen Zielen zweckmäßig. Um die eingeschlagene Politik der erneuerbaren Energieträger konsequent weiterzuerfolgen, wäre auch die Festlegung verpflichtender sektoraler Ziele für die MS sinnvoll.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments,

availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Aufrechterhaltung der Einfuhrzölle und einer Maximalimportquote als Außenschutz für die innereuropäische Erzeugung nachwachsender Rohstoffe und biogener Energieträger, v.a. Bioethanol- und Biodieselproduktion; Genaue Prüfung der Einhaltung der Nachhaltigkeitskriterien aus RL 2009/28/EG Art. 17 bis 19 für außereuropäische Produktionsstätten Strenge Kontrolle der Berichtspflichten von Drittländern und deren Bedingungen der land- und forstwirtschaftlichen Produktion bezüglich nachhaltiger, umweltschonender Wirtschaftsweisen und Sozialstandards; Keine weiteren bilateralen Zollabkommen zum Import von Biotreibstoffen und deren Rohstoffen;

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Staatliche Förderprogramme für erneuerbare Energieträger sind jedenfalls solange nötig, solange auch fossile und nukleare Energieträger massiv subventioniert werden (2010 wurden lt. IEA fossile Energieträger weltweit in der Höhe von 409 Mrd. Dollar staatlich subventioniert, erneuerbare Energien hingegen mit lediglich 66 Mrd. Dollar.). Aktivitäten seitens der Kommission zur Darstellung von Kostenwahrheit (Folgekosten durch klimaschädigende Emissionen, Berechnung externalisierter Kosten, Darstellung langfristiger Förderungen) und Erreichung von Markttransparenz bei fossilen und nuklearen Energieträgern sind dringend notwendig.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

Starke Marktverzerrungen zugunsten fossiler und nuklearer Energieträger bestehen derzeit aufgrund der im Vergleich zu erneuerbaren Energieträgern über sechs mal höher staatlich geförderten fossilen Energieträgern, ungerechtfertigten Vorteilen bei der Emissionsberechnung (fragwürdiger fossiler Komparator in RL 2009/28/EG und 2009/30/EG) sowie Versicherungen (Haftungsbegrenzung bei Atomkraftwerken). Schnellstmögliche Beseitigung aller monetären und nichtmonetären Vorteile für fossile und nukleare Energieträger, umfassende Darstellung von Kostenwahrheit, Markttransparenz! Maßnahmen: EU-Richtlinie zur verpflichtenden Darstellung der Kostenwahrheit bei fossilen und nuklearen Energieträgern, Erhaltung der steuerlichen Begünstigung für erneuerbare Energien, keine CO2-Steuerkomponenten für biogene Treibstoffe und sonstige biogene Energieträger.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Aufgrund unterschiedlicher Entwicklungsstadien und spezifischer Rahmenbedingungen in den einzelnen MS müssen

Förderungsmechanismen für die unterschiedlichen Sektoren und Technologien in jedem MS individuell angepasst werden. Eine vollständige Steuerbefreiung von biogenen Treibstoffen unterstützt ganz wesentlich deren Marktdurchdringung und deren Einsatzsteigerung. Bei der Neufassung der Energiesteuerrichtlinie muss die Möglichkeit der steuerlichen Bevorteilung von erneuerbaren Energieträgern, v.a. Biotreibstoffen, erhalten bleiben (siehe Art. 16 der RL 2003/96/EG).

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes</p>
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<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>
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Please specify which support schemes you consider most distorting -open reply-(optional)

siehe B.1. und B.2.: Fehlende Kostenwahrheit durch versteckte Subventionen, Kostenexternalisierung, Nichtberechnung von Folgekosten, ungerechtfertigte Bevorzugung in Regelwerken, etc. bei fossilen und nuklearen Energieträgern führen zu groben Marktverzerrungen. Darüberhinaus unfaire Wettbewerbsbedingungen durch Konzentration enormer Finanzmittel sowie Monopolstellung und damit verbundener Marktmacht bei wenigen Ölkonzernen.

## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)</p>
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

einerseits praxisuntaugliche und überbordend komplizierte administrative Prozesse in den Vorgaben zu den Nachhaltigkeitskriterien in RL 2009/28/EG, Zeitverzögerungen seitens der EK bei deren konkreten Umsetzung, völlig entkoppelte Prozesse zu Nachhaltigkeitsnormen, andererseits derzeit immer noch fehlende, im Auftrag der EK zu erstellende Europäische Normen für die technische Spezifikationen bei E10 und B10; Die Rahmenregelungen zur Umsetzung der Erfordernisse der EU-Richtlinien müssen durch die EK im Einvernehmen mit den MS geklärt werden und dürfen nicht mandatslosen Normungsprozessen in entkoppelten CEN-Gremien überlassen werden.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Other (please specify)</p>
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Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Beseitigung von Barrieren für die Produktion erneuerbarer Energieträger (immer kompliziertere, praxisuntaugliche Nachhaltigkeitskriterien für nachwachsende Rohstoffe); Wirksame Regelung der Rahmenbedingungen für die Produktion und Bereitstellung fossiler und nuklearer Energien durch die Vorgabe effektiver Ethik-, Umwelt- und Nachhaltigkeitsstandards, Richtlinie zur Kostenwahrheit

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following</p>	<p>Grid connection rules - Cost-sharing rules - Balancing rules</p>
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national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access

D.2.1. Please explain why -open reply-(optional)

Ohne bevorzugten oder garantierten Netzzugang besteht die Gefahr, dass nur sehr schwer überwindbare oder gar unüberwindbare bürokratische und finanzielle Hürden (Netzzutrittskosten) für kleinere dezentrale Stromerzeuger aufgebaut werden.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Ein besonderer Vorteil von biogenen Energieträgern liegt in der bedarfsgerechten Bereitstellung. Biomasse kann daher gezielt sowohl zur Grundlastabdeckung als auch zur Abdeckung von Bedarfsspitzen eingesetzt werden. Windkraft- und Photovoltaikanlagen unterliegen hingegen unkalkulierbaren Produktionsschwankungen.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

Vollautomatische Heizsysteme für biogene Energieträger haben i.d.R. aufgrund geringerer Produktionsstückzahlen und aufwendigerer

Brennstoffbeschickungstechnologien deutlich höhere Investitionskosten als Erdgas- oder Ölfeuerungsanlagen. Die kontraproduktive Gewährung von Investitionszuschüssen der Mineralölindustrie zum Austausch von alten Ölkesseln durch neue Ölkessel verlängert unnötigerweise die Abhängigkeit von fossilem Heizöl im Wärmesektor. Gleichzeitig ist der Treibstoffmarkt mit Dieselmotoren unterversorgt. Dies bewirkt eine indirekte Subventionierung der heizölbasierten Raumwärmeerzeugung durch die höheren Dieselpreise. Die Verbrennung fossiler Mitteldestillate zur Raumwärmeerzeugung sollte daher in der EU verboten werden.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Solar thermal

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Moderne Biomassekessel weisen aufgrund des optimierten Verbrennungsvorgangs im Vergleich zu veralteten Allesbrennern einen erheblich gesteigerten Wirkungsgrad auf. Durch eine rasche Erneuerung des Heizanlagenbestandes kann daher eine deutliche Effizienzsteigerung erreicht werden. Weitere Effizienzsteigerungen sind möglich durch die Kombination unterschiedlicher Heizsysteme (zB Zentralheizung mit solarthermischer Anlage) und die Anwendung von Speichertechnologien (Pufferspeicher). Eine generelle Elektrifizierung der Raumwärmeerzeugung (Nachtspeicheröfen, Stromheizungen) hingegen ist in hohem Maße ineffizient, daher strikt abzulehnen.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail - Air

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing criteria are already burdensome to implement -  
No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

Die Einführung zusätzlicher oder die weitere Verschärfung bereits bestehender Nachhaltigkeitskriterien würde aufgrund zusätzlicher Bürokratie und Kosten zu einer weiteren massiven Benachteiligung von biogenen gegenüber fossilen Energieträgern führen. Mit den bestehenden Forstgesetzen für den Wald und Cross Compliance in der Landwirtschaft bestehen in den MS bereits klare Regelungen zur Nachhaltigkeit der Biomasseproduktion. Dem gegenüber stehen fehlende Vorgaben für Kostenwahrheit, Nachhaltigkeits-, Ethik- und Umweltstandards für die Produktion von fossilen und nuklearen Energieträgern. Hier sollte die EK durch eine Richtlinie wenigstens zu erfüllende Mindeststandards festsetzen.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional) Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

In Teilbereichen der landwirtschaftlichen Produktion sind Kooperationen insbesondere mit angrenzenden Nachbarstaaten (Balkanländer, Ukraine, ...) denkbar, um die dort flächenmäßig umfangreich vorhandenen Brachflächen und Ertragssteigerungspotentiale zu nutzen Ebenfalls sinnvoll sind internationale Kooperationen bei F&E und Technologietransfer in allen Bereichen der erneuerbaren Energien.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional) No (explain why)

Please explain why -open reply-(optional)

Priorität sollte insbesondere auf der Optimierung dezentraler Energieversorgungskonzepte mit regionaler Ver- und Entsorgung für überschaubare Energieerzeugungseinheiten und Wertschöpfungseffekten im ländlichen Raum liegen.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional) Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Einer Steigerung der erneuerbaren Energie-Produktion innerhalb der EU ist jedenfalls der Vorrang zu geben.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Priorität sollte insbesondere auf der Optimierung dezentraler Energieversorgungskonzepte mit regionaler Ver- und Entsorgung für überschaubare Energieerzeugungseinheiten und Wertschöpfungseffekten im ländlichen Raum liegen. Je näher Energieerzeugung und –verbrauch räumlich intelligent organisiert und integriert sind, desto vorteilhafter (Stichwort: smart grids). Demgegenüber weisen zentralisierte Großanlagen enorme Transferverluste und Transferkosten als entscheidende Nachteile auf.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional) Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)	
Der SET-Plan zielt, da er auf Großanlagen fokussiert, an den wesentlichen Anforderungen für dezentrale Energiesysteme mit regionaler Ver- und Entsorgung vorbei (siehe Anmerkung I.3.)	
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	
Der Fokus muss klar auf der Optimierung von kleinen und mittleren Energieerzeugungs- und –versorgungssystemen liegen, darüberhinaus Energieeffizienz, Energiesparpotentiale, kaskadische Rohstoffnutzungsströme	
J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?	
-open reply-(optional)	
Biomassegewinnung durch Algen, Mikroalgen, etc., Reststoffnutzung aus der agrarischen Produktion (Maisspindel, Stroh), Optimierung kaskadischer Nutzungsströme in der Biomassenutzung, Methan aus biogenen Quellen	
J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)	Successful but some drawbacks (please specify which)
Please specify which drawbacks -open reply-(optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?	
-open reply-(optional)	
Die Technologieentwicklung sollte an Zielvorgaben gekoppelt werden, da dies ein wesentlicher Anreiz für technische und ökonomische Effizienzsteigerung ist. Siehe beispielsweise CO2-Ausstoß bei Fahrzeugen, wo erst die Festlegung eines verbindlichen Zieles zu Fortschritten in der Autoindustrie bei der CO2-Reduktion geführt hat.	

<b>IDENTIFICATION</b>	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Diego Sanchez-Lopez, EDF Energy, Diego.Sanchez-Lopez@edfenergy.com
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	United Kingdom
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>No, targets for renewable energy sources are unnecessary</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>• Targets for renewable energy sources post-2020 are unnecessary and undesirable as they will add significant additional costs for consumers and create market distortions. • Renewable energy support levels should be determined individually by Member States. • The carbon price signal should be the primary driver post 2020 for the effective and economic deployment of low carbon technologies across Member States to meet the 2050 carbon emissions reduction ambitions. • Support schemes should be phased out over time as the carbon price signal takes over. No, targets for renewable energy sources are not only unnecessary but clearly undesirable as they will add significant additional costs for consumers and create market distortions. In particular, renewable energy targets post-2020 will undermine the carbon market by dampening the carbon price signal. The carbon price signal should be the primary driver post-2020 for the effective and economic deployment of all low carbon technologies across Member States to meet the EU's long-term aspiration to deliver a 60%-80% reduction in greenhouse gas emissions by 2050</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc)</p>
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>Yes</p>
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>This could be achieved by making renewable energy support schemes more market-oriented by linking the level of support to the carbon price and market price. Also, there should be a phasing out of support schemes over time as the carbon price signal takes over as the primary driver for investment in all low carbon technologies.</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>No, support levels should be entirely up to Member States</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>No</p>
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	

The non-harmonisation of support schemes will not prevent Member States from achieving their mandatory national overall target in 2020. The Renewable Energy Directive asks for each Member State to set out, in its National Renewable Energy Action Plan (NREAP), its own national sector targets for the renewable share of energy consumed in transport, electricity and heating/cooling in 2020. Each Member State is therefore free to translate each of its national sector targets into technological targets. It appears therefore appropriate that each Member State adopts the most suitable support schemes to achieve the energy mix target it has defined. A harmonised approach would not be able to take into account national and local cost differences. This would lead to market distortions which would result in under and over delivery respectively due to the level of support not being reflective of local market conditions within a given Member State for a particular technology. The recent suspension of renewable energy subsidy support by the Spanish Government for new projects demonstrates how a non-harmonised approach is better for delivering a quick market correction. If Spain was operating in a harmonised renewable energy mechanism, it would be unable to correct an issue specific to its own power market.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)  
-open reply-(optional)

EDF Energy does not support any of the options in Q B.6 since none of the proposed approaches for this question in the consultation are suitable. Linking the level of support to the carbon price and the wholesale market power price will better serve the requirements of the internal electricity market of a given Member State. Therefore, support schemes should be phased out by Member States as the carbon price takes over as the primary driver for investment in all low carbon technologies.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes will be differ because the cost of developing any particular technology will vary across Member States. Therefore the distortions are implicit within the respective Member State targets and the policy options selected by each individual Member State. None of the proposed approaches for this question in the consultation are suitable. There is potential to distort competition and this will increase with the rollout. Support schemes should be phased out by Member States as the carbon price takes over as the primary driver for investment in all low carbon technologies.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

From a UK perspective, the complexity of administrative procedures relating to authorisation, certification and licensing remain the barriers to rapid deployment of renewable energy projects. The UK Government has put in place reforms to both the planning and licensing regimes for the power generation sector which should help renewable energy projects deploy faster in the near future.

C.2. Which policy response to the problems identified above do you consider appropriate?

The approach of the current Directive to lay down a general framework for Member State action is fine

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

None of the given national rules and framework conditions will continue to create obstacles to renewable energy production after 2020. We believe that the necessary reforms to address the obstacles mentioned in the consultation are currently underway.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

None of the above

D.2.1. Please explain why -open reply-(optional)

None of the proposed renewables-specific grid related rules are needed post 2020 as renewables should be able to participate openly in the market as their share of the generation market grows. Interconnection must be market driven by signals from market arbitrage opportunities and not by central prescription. Also, compensation arrangements for curtailment should be determined by the principles of the trading arrangements in which the plant operates and these should be technology neutral.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

Renewable energy could be made more responsive to market signals by making the following changes to the way they interact with the market: • Price risk – producers of renewable energy should operate without any aid; • Producers of renewable energy should bear greater responsibility for system costs; • Balancing risk – producers of renewable energy should bare balancing responsibility towards TSOs, in line with all other technologies. In addition to this, capacity mechanisms may be implemented in order to ensure that sufficient investment in generation capacity can be made to ensure security of supply. In the long-term, all generation should participate openly in a market underpinned by a carbon price.

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

Market arrangements can be designed to reward flexibility by: • Ensuring fair regulatory treatment of storage operators facilitated through the removal of regulatory obstacles and not through any special treatment such as subsidy support; • Develop demand response to market signals (ancillary services, balancing power).

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	The current wholesale market model based on short-run marginal cost pricing is appropriate
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Lack of awareness - Lack of public support - Lack of capacity (installers, other)
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Electrification together with higher share of renewables in electricity production
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Renewable energy in heating and cooling along with energy efficiency are complimentary and should be promoted in an integrated way.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of infrastructure - Lack of awareness - Limits of availability of sustainably produced biofuels
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail
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G.2.1. Please explain your answer -open reply-(optional)  
The most promising transport sectors that could increase the share of renewable energy are: • Road for passengers; • Rail. This will happen through the growth in uptake of electric vehicles and also the electrification of rail. Road transport users should bear a fair part of the costs incurred by the development of renewables.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)
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Please specify which criteria

-open reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass and biofuels. The criteria must ensure biomass and biofuels deliver a high level of carbon savings to play a role in the longer term i.e. beyond 2030. This must now start to focus on fuels that can deliver greater than 80% savings.

H.1.1. Please explain -open reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass and biofuels. The criteria must ensure biomass and biofuels deliver a high level of carbon savings to play a role in the longer term i.e. beyond 2030. This must now start to focus on fuels that can deliver greater than 80% savings.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Yes. The EU should cooperate with non-EU countries for the further development of renewable energy.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

Cost-effective, market-based solutions with carbon price and capacity mechanisms should determine investment decisions in electricity networks for the EU. By picking Member States, distortions to the market could arise with unintended consequences.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

There should be no special or preferential treatment given. Technologies should be utilised where they are most appropriate.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

There should be no special treatment given. Cost effective transmission optimisation should determine the strategic approach to grid

connection for dealing with larger volumes of offshore wind generation in for examples the case of projects sited in the North Sea via the North Sea Countries offshore Grid Initiative (NSCOGI).

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

To help support significant renewable energy deployment up to 2050, solutions to planning obstacles should be agreed and implemented.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?  
-open reply-(optional)

There should be no special or preferential treatment unless the reasons for taking such an approach are very clear.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

Yes. Assistance in technology development should be on the basis of clearly defined delivery milestones and deadlines for the end of such support.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

Giuliano Digilio - Electrical Contractors' Association (ECA) -  
giuliano.digilio@eca.co.uk

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

United Kingdom

<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>Yes, a mandatory target at EU level is appropriate</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies</p>
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>Yes</p>
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>No, support levels should be entirely up to Member States</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>No</p>
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes</p>

a rising share of renewables? -multiple choices reply- (optional)	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of credible and certified training and qualification
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
Basic renewable technologies need to be included as basic education within schools and technical colleges for all future students. Also, there should be common up-skilling modules for the existing engineers and workforce within the construction sector.	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
<b>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</b>	
D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	
D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network
D.2.1. Please explain why -open reply-(optional)	
D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection
<b>E. MARKET INTEGRATION</b>	
E.1. In which of the following ways could	Price risk - producers of renewable energy should be obliged to

renewable energy be made responsive to market signals? -multiple choices reply-(optional)	sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand -open reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Electricity markets should evolve into energy services markets, earning revenues from more than just electricity
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Electrification together with higher share of renewables in electricity production
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Lack of infrastructure
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Rail
G.2.1. Please explain your answer -open reply-(optional)	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	
H.1.1. Please explain -open reply-(optional)	

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	Yes
I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	No, the EU should first focus on developing its own renewable potential
I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	N/A
I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	N/A
I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)	
I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)	

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	Technology performance and cost-competitiveness
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Mainly cost and lack of awareness of new technologies

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

This would be very difficult as technology is constantly evolving and changing.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Stephanie Pfeifer, IIGCC, spfeifer@theclimategroup.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Other (please specify)

Which other country? -open reply-(optional)

EU-wide membership organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Investments in renewable energy are very long-term and only possible if assisted by policies that support a relatively safe long-term assessment of expected risks and returns. Mandatory targets would help to give investors confidence that policies providing long-term visibility and stability will be put in place. They also help to reduce the risk of retroactive changes to policy, which damage investor confidence and hamper the prospects of attracting large scale private investment to the renewable energy sector.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Continue to ensure sustainability and scalability - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

Provide clarity on the application of the EU unbundling legislation, as whether intended or not, this directive is acting as a barrier to institutional investors ability to provide direct and significant financing for long term investments in both generation and transmission including renewables. Engagement with the financial sector generally is critical given the scale of investment required and the inability of utilities to finance investment unilaterally. The finance sector is also facing differing challenges which need to be taken into account. Specifically, we would encourage the Commission to continue a close dialogue with IIGCC with a view to creating a market environment that stimulates long term institutional investors to increase investment in renewable energy.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

While subsidies are still needed for renewables today, in the future this will depend, for example on equipment prices and the price for renewable energy and conventional energy. The effect on future prices of all this is difficult to predict today. The key from an investment perspective is that renewable energy policy supports the long-term assessment of expected returns on investment. For investors to continue to invest in renewable, it is critical that consistent, stable and well-communicated incentive programmes, with clear and transparent rules are put in place. In general, we would be happy to see wind and solar equipment prices so low in the future, as not to require a subsidy at all, while providing adequate returns, this would provide more certainty in itself for investors. But it would be important to provide a more fair and even playing field between renewable and conventional energy. We also continue to encourage measures to provide an effective carbon price that will support a shift into low carbon investment.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available -open reply-(optional)

Some of our members feel that planning and permitting has been challenging in some countries, for example where a lack of zoning plans creates uncertainty and lengthy processing times particularly within local agencies and governments can create bottlenecks in the process.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

We encourage the EU to make specific recommendations under current legal framework for removing administrative barriers resulting from national planning regimes and to provide clear guidance on the meaning of ambiguous terms, including "priority access".

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices  
reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices  
reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice  
reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices  
reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices  
reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices  
reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices  
reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?  
-multiple choices  
reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to

2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Mr Ahti Fagerblom, Finnish Forest Industries Federation,  
ahti.fagerblom@forestindustries.fi

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Finland

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

When the milestones from the Commission 2050 roadmap to a low carbon economy and the 2050 Energy Roadmap trajectories would be translated into EU Economy wide CO2 targets, the choice comes forward between markets and measures to secure these targets to be met. The more stringent these overall CO2 targets become, the more flexibility the member states need to choose between the

different options. In this respect mandatory renewable targets will not lead to the most cost efficient solutions and should not be put in place. Targets are only a start of measures, which bring the real changes and only an indicator for markets, providing a view on future policies. These functions can be met with indicative non-binding targets. The need for flexibility further signals that sectoral sub targets are not appropriate. Any form of targets leading to demand-side measures need to be accompanied by measures to ensure the supply. Particularly for bio-energy, the demand-side measures must be balanced by measures ensuring the supply of raw materials.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies
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## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

Support should be phased out over time towards 2020. Financial support post 2020 should be aimed at R&D&I on new and efficient technologies.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Phase out support schemes over time (please specify for which technologies if applicable)
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Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Combination of investment in R&D&I and phase out support schemes over time, see answer to question above

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	No, support levels should be entirely up to Member States
---	---

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Support finance distorts the competition between wood processing industry and energy sector. To avoid these distortions, a coordinated approach to material efficiency and the cascading use of biomass is necessary. Support should be phased out over time towards 2020.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Priority or guaranteed access

D.2.1. Please explain why -open reply-(optional)

Extensive amount of priority dispatches for renewable (or any other for that matter) generation prevents electricity market to function efficiently. As the support schemes should be phased out, renewable energy should be exposed to market terms as any other generation.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

These are not directly the areas where pulp and paper industries take the most active part, nor investments. On the other hand we see that more flexible back-up solutions will have to be developed in parallel with the infrastructure development and availability of demand response capacity. In practical terms this would mean that enough interconnection capacity will have to be developed.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to

market signals? -multiple choices reply-(optional)	
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other barriers -open reply-(optional)

Concerning bio-energy, there could be a better uptake of renewable energy in heating and cooling if a stronger emphasis was given to the mobilisation of feedstocks, both from agriculture and forestry. CHP is a very efficient way to increase renewable heating and cooling, but in many cases, the infrastructure is not sufficient to implement CHP.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal - Other (please specify)
---	---

Please specify which other pathways -open reply-(optional)

The growth in the share of renewable energy in heating and cooling from biomass is constrained by the limited availability of sustainable biomass that is not needed as food or fibre. Some RE sources (air, sun, water, geothermal) are freely available and should be further developed, whilst biomass has a price and may be subject to market distortions/unfair competition. The emphasis in the future should be on solar and geothermal.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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There is a strong interaction: Efficiency criteria must ensure that biomass is used in a resource efficient way. This will make available additional volumes of biomass for use in heating and cooling. On the other hand, energy efficiency in the energy consumption is also reducing the overall needs.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
--	--

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability	No, the existing binding sustainability criteria are sufficient
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criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

FLEGT Timber Regulation, which will be applied March 2013 onwards, stipulates operators to practice due diligence in order to make sure no forest or environmental legislation related to SFM is breached. The regulation covers fuel wood and wood chips. Sustainability of forest biomass in Europe is already controlled through several commitments, legislation and other instruments. Member States have competence on forestry and forest policy and according to subsidiary principles the Community policies should focus only on issues that bring clear benefits for the Member States. The proposed EU-level biomass criteria will have significant effects on Member States' forest policy, however, without identified common benefits.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart

Other (please specify)

cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

Technology performance in general can still be further improved, resulting in good cost competitiveness and lesser need for support. The main obstacles for further deployment of bio-energy, especially biofuels and bio liquids will be the price for biomass. In that respect two aspects will play a major role. For further deployment and development in these areas EU will have to put policy measures in place to guarantee enough biomass, good quality biomass at affordable prices to keep EU pulp, paper and wood product industries competitive. At the same time we need to secure cascading use of biomass including recycled cycles in industrial processes (collection, mobilisation and supply of the raw material).

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The main obstacles for further deployment of bio-energy, especially biofuels and bio liquids will be the price for biomass. In that respect two aspects will play a major role. For further deployment and development in these areas EU will have to put policy measures in place to guarantee enough biomass, good quality biomass at affordable prices to keep EU PPI competitive. At the same time we need to secure cascading use of biomass including recycled cycles in industrial processes (collection, mobilisation and supply of the raw material). An additional possibility are policies to promote short rotation forests or other highly productive biomass sources.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Biomass technologies, aiming at further increasing efficient use of biomass should be supported to come to their potential. Furthermore, the efficiency of incineration systems for residues and wastes can further be improved.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Successful but drawbacks. In the area of biomass we do NOT consider measures as being very successful especially in the area of the given subsidies and support for burning biomass in power plants with very low overall efficiency not considering the basic principles of Resource efficiency and cascading use of biomass. Technology policies should focus on providing much more efficient solutions for turning biomass into energy.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

More important would be to decide about assistance based on thoroughly evaluated effects on the whole society not just on energy production. This should be closely linked to the evaluation of the impacts on industries depending on the same raw material.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please

EARPA

include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	NGO
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you

consider most important to increase the flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices  
reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices  
reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice  
reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices  
reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices  
reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices  
reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Renewable energy for transport purposes consists not only of biofuels (gaseous and liquid), but also of hydrogen and electricity produced from renewable energy sources. To meet the EU targets beyond 2020, the use of bio components in fuels, as proposed by the renewable energy and fuels quality Directive, will not be sufficient as there are today not enough resources for biofuels production. The energy mix for transport purposes and accordingly the variety of propulsion systems will diversify, requiring cost effective products and production methods, infrastructure, etc. Almost the complete capital of the automotive industry is currently focused on conventional propulsion systems. Major investments are required to achieve a significant share of new automotive propulsion systems. The technology already exists or will soon be ready, while we are far away from having large scale production facilities for such new systems which depend on alternative fuels. Prior to the investment difficulty, the primary barrier that the automotive industry is facing today is the cost competitiveness of vehicles with fuel cell and battery based propulsion systems. Low energy costs and new components of the complete powertrain system are required for an acceptable total cost of ownership requiring both large scale renewable energy production and large scale component manufacturing. Because of the uncertainty of an acceptable future total cost of ownership and thus of significant sales, the industry

G.2. What sectors of transport do you consider

Road for passengers - Road for goods

to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

On road transport, electric urban transport (low range, good electric infrastructure) is a promising area to develop further the share of renewable energy in transport under the condition that extra electric power required is produced sustainably. Efforts in all cases are required to increase the production of electricity using renewable energy resources. Road transport requires more effort to increase the share of renewable energy. Blending conventional fuels with an increasing rate of biofuels is required anyhow, supported by an increasing share of electricity and secondly hydrogen fueled vehicles. Heavy road vehicles will face the biggest hurdles for electrification of the propulsion system due to the required range and thus storage capacity of electricity or hydrogen. Looking at passenger cars, the share of renewable energy can be higher. First of all because of the limited daily range of a significant share of the passenger car fleet, secondly because of the opportunities to use alternative energy sources in urban bus applications given their known routes and limited challenges for required infrastructure. Additional reference of EARPA to precise the ideas quoted above. Final report of the Future Transport Fuels Expert Group organised & published by the European Commission (DG MOVE) end 2011

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Gas Infrastructure Europe (GIE)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply- (optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
--	--

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

In establishing milestones for the renewables, the EU should take care to avoid mutually contradictory targets which may risk leading to undesired outcomes. The overall aim should be to reduce CO<sub>2</sub> and other Greenhouse Gas Emissions in a cost-effective manner. GIE recognises that Renewably Energy should continue growing and being developed. However, GIE wants also to underline that as regards the reduction of CO<sub>2</sub>/GHG emissions, this can be achieved in various ways not only through compulsory renewable energy targets. While gas offers a subsidy-free, cost-effective route to lowering carbon emissions in the near term, it also opens up options for the low carbon economy of the future, as a fuel that is adaptable either for use with CCS or in support for zero-carbon renewables. Such optionality is critical for EU Member States, given that the balance of economic and technological attractiveness of zero-carbon renewables and of CCS will continue to evolve over time. Continuing RD & I activity and support for roll-out of both zero-carbon renewables and CCS remains vital in this context. A target for renewables could be detrimental for other low-carbon energy options. The EU should focus its targets on reducing CO<sub>2</sub> / GHG emissions while giving all low-carbon technologies the possibility to contribute to this target. Natural gas is the best energy source to reach greenhouse gas emission reduction targets whilst ensuring Europe's competitiveness on a global level

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Continue to ensure sustainability and scalability - Other (please specify)
---	--

Please specify which other policy elements? -open reply-(optional)

Policy elements should support all low-carbon energy options and developments, especially those that maintain Europe's competitiveness. The critical role that gas and gas infrastructure plays in enabling the development of RES should be recognised and promoted. It would be advisable to increase focus on establishing pilot projects for moving emergent technologies towards commercially sustainable uses. This includes innovative solutions which would provide an answer to the increasing volatility of electricity production and system integrity such as "power to gas" and "Compressed Air Energy Storage".

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
---	--

Please specify which technologies/circumstances/markets -open reply-(optional)

It is important to be aware that as renewable energy increasingly will be sold across national border there may appear some cases where nationally subsidized renewables could have distorting effects on the internal market.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others  
(please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

It is important to be aware that as renewable energy increasingly will be sold across national border there may appear some cases where nationally subsidized renewables could have distorting effects on the internal market.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY

## SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

GIE would like to highlight the strong interactions and dependence between the electricity and gas networks. Gas Infrastructure plays a key role in the renewable integration as gaseous energy carriers provide the flexibility, storability and transportability needed to “enable” the variable renewable energy sources. With the increasing share of renewables the need for gas infrastructure will grow accordingly.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Accelerate infrastructure development and interconnection -  
Other (please specify)

Please specify which other measures -open reply-(optional)

Gas is the ideal partner for variable renewables – it is quickly available and can be stored effectively in large quantities. Gas-fired plants act both as flexible base-load (replacing coal-fired generation) and as back-up resource in support of increased shares of diverse, variable RES generation, while conforming to the EC’s 2020 and 2030 power sector CO2 emission reduction goals. In order to integrate increasingly variable power generation gas infrastructure will need to further develop to offer increased flexibility. This will require investments on gas infrastructure (transmission, underground gas storage and LNG terminals) to provide fast-response and high send-out gas capability. This need for flexibility may entail decreased load factors in gas transmission infrastructure. Policy makers will have to ensure that the decrease of these load factors will not endanger the cost recovery for the investments. It has to be noted also that gas infrastructure usually represents a small percentage (e.g. less than 10%) of the final price to be paid by the end consumers.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

In situations where significant amounts of fluctuating renewables have a significant impact on the balancing situation it should be ensured that there remain positive business cases for stabilizing power plants e.g. gas-fired powers stations that may only be running for when

renewables are periodically unavailable.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Smart grids and meters could become a key component for interlinking various sources of energy and make consumers more aware of their consumption. This demands that smart grid strategies include all energy systems – gas, heat as well as electricity. When talking about storage operators, this should also include the underground gas storages. The development of new technologies such as “power to gas” and “Compressed Air Energy Storage” should be facilitated by a favourable regulatory treatment.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

In the transition to a low-carbon economy, natural gas will play a key role as an alternative fuel for transports. Natural gas is the fossil fuel with the lowest CO<sub>2</sub> emissions and the transport sector can contribute towards the reduction of GHG emissions in a fast and economic way if alternative fuels such as CNG and LNG are further developed. To further contribute to a low carbon economy, biomethane can be injected to natural gas systems allowing the biogas to be mixed with the passing natural gas. Biomethane as an additional and renewable energy source promotes indigenous production and supports meeting commitments towards sustainability, diversifies energy sources and contributes to security of supply. In order to further facilitate its usage, biogas is injected to natural gas systems, which requires that it is produced, upgraded and purified to the required quality according to the specifications applied in the relevant systems. Furthermore, biomethane has the highest energy efficiency of all biofuels per surface of land. Biofuels should be developed where possible and not competing with agriculture. The development of the market of natural gas for transport requires investments in infrastructures, which require a critical mass of consumers and an adequate fiscal regime for gas. It should also be taken into account that both natural gas and biogas may become a convenient fuel for fuel cells that can be expected to play a role in transport in the long run.

G.2. What sectors of transport do you consider

Road for passengers - Road for goods - Rail - Water

to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

Natural gas (CNG and LNG) has demonstrated its great performance as an alternative fuel and is the only proven technology applicable to any kind of vehicles (cars, trucks, ships, trains) for short, medium and long distances. Furthermore, by using natural gas as transport fuel, the SOx, NOx and particulate matter emissions will reduce significantly. Biomethane may also in the long run play benefit from these technologies.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added -open reply-(optional)

An increasing focus on sharing of best practices and development of an integrated outlook on electricity and gas infrastructure should be considered.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

Whereas the need for investments in electricity networks is acknowledged a balanced approach should be ensured. It is important to keep in mind that the gas infrastructure will play an equally important role in the development of a low carbon economy. Energy transport via gaseous energy carriers is much more efficient and less cost intensive than via electricity networks.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the

Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

There needs to be increased focus on the integration between power and gas systems in order to allow gas to enable further development of fluctuating renewables. Gas will not only remain a significant flexible energy provider it will also in the long run be able to store wind power in overload situations.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes

European Partnership for Energy and the Environment (EPEE). Email: [secretariat@epeeglobal.org](mailto:secretariat@epeeglobal.org)

for use only if we need clarification about your responses. -open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Mandatory targets have proven to be more efficient than voluntary ones. The result is also an increase of innovation. Finally it helps to streamline and secure financial incentives.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

It is necessary to broaden the playing field of RE, meaning that there should not be any preference given to certain technologies, instead the approach should be technology- neutral. Legal requirements are currently often an obstacle with regard to their treatment of different technologies in a subsidies perspective. Requirements on efficiency are based on different methods, within and between countries. Having to fulfill these requirements often makes additional tests and development cost necessary, thus limiting the single European market and making a cost efficient development of one product for all EU countries difficult, sometimes impossible.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	Yes
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Incentives should be provided to all kinds of technologies and tailored to each kind of technology.	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
The underlying methodology has to be equal among all Members States. The support can be best tailored on a regional level.	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
The investments in the Member States in certain technologies (e.g. wind power stations or photovoltaics) are focusing too much on electricity. There is a need for increased support of heating and cooling systems in comparison to electricity and transport.	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
In light of making the European energy market beneficiary for all Member States, support schemes should be open to other European countries. Energy solutions should be shared in the most practical way possible. Accordingly small scale solutions could contribute to an improved energy supply in all Member States.	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
Support schemes which are not technology neutral do distort competition fundamentally. Also a good support scheme is transparent, easy to understand and use, follows a defined goal and is budget independent.	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
Lack of commonly agreed technical specifications: Contrary to the aim of the different pieces of legislation being applicable in one European market, Member States are starting to set up additional requirements, often on efficiency and quality. Examples are France	

and the UK: NF PAC (France) and MCS (UK) are by and large not compatible and require additional testing and administrative steps from manufactures to become eligible for support. The industry strongly supports a drive for better quality, but believes that identical requirements would not harm installation quality while at the same time making it easier to sell the same type of products across Europe. Training and certification is available for heat pumps in most EU countries. The biggest obstacle is, that these systems are often not used by the installers, as the consumer is not asking for quality labels/certificates. In turn, at least one reason for this situation is the lacking connection between government subsidies and labels/certificates.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Grid connection across national borders - or even within a Member State across regional borders - is mostly linked to highly bureaucratic procedures and therefore an obstacle for investments.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

The development of the grid network would have a positive impact on the productivity, flexibility and efficiency of the energy sector.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Increased availability of storage

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an

Electricity markets should evolve into energy services markets,

appropriate framework for renewables -single choice reply-(optional)	earning revenues from more than just electricity
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Lack of public support - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Main barriers are the unequal treatment of different technologies and a lack of sufficient financial incentives.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other pathways -open reply-(optional)

A sufficient technology-mix should be the future pathway, e.g. including highly efficient technologies such as heat pumps appropriately.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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Measures as Ecodesign rules and Ecolabel schemes are promoting the further use and production of renewables while also enhance energy efficiency. Those measures and rules should apply to all technologies equally in order to achieve the maximum level of environmental contribution.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Lack of infrastructure - Other (please specify)
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Please specify which other barriers -open reply-(optional)

The unequal treatment of different technologies.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Road for goods - Rail - Water - Air
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G.2.1. Please explain your answer -open reply-(optional)

Energy policy making should look at all these sectors equally, as they all have a relevant promising potential.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)

Again, all technologies need to be handled in the same way. The criteria should therefore apply to all biomass and fossil fuels.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient	No (please specify how they should be amended or which
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<p>to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>elements added)</p>
<p>Please specify how they should be amended or which elements added -open reply-(optional)</p>	
<p>The cooperation should be improved. Rules should be more liberalised and open regarding the scope, so that cross-border investments and cooperation will become more attractive. Flexibility would give more room to the industry to create cost-efficient renewable technologies</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>Cooperation with third countries will increase exports of European technology and know-how and should therefore be promoted.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>Yes (explain in which way and to which degree)</p>
<p>Please explain in which way and to which degree -open reply-(optional)</p>	
<p>In order to create a new "playing field" for investments and innovation - which would result in economical beneficiaries - it is necessary to focus among Member States.</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>Priority should be given to the EU internal renewables policy in order to boost investments and economical benefits and take a global lead in new technologies. However in terms of new markets and exporting, these partnerships have to be build up or intensified - obviously this has to be in line with all EU regulations.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>Especially regarding grid connection such cooperations are vital and should be fostered. In case of success this example can be generalised and applied elsewhere.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of</p>	<p>Technology performance and cost-competitiveness</p>

renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Public awareness should be raised in regard to all kinds of technologies, financial incentives have to support innovation efforts and the EU rules have to be harmonized and the legislation has to cross-comply.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

A technology neutral approach is the most promising way for the European energy sector.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

The measures have been limited to technologies available on the existing market. The SET plan does not include all kinds of technologies adequately.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

This can't be answered in a generalised way. It always depends on the situation and the case. For the case of basic R&D, this seems not plausible, for the case of research into technology deployment, as supported under the IEE program and the future horizon 2020, targets and deadlines should be set.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Maria Sunér Fleming, Confederation of Swedish Enterprise,  
maria.suner.fleming@swedishenterprise.se

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Sweden

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

No, targets for renewable energy sources are unnecessary

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The Confederation of Swedish Enterprise supports the transformation of the EU energy system to a low-carbon, competitive and reliable energy system. In our view climate change and security of supply are the most important issues to consider in European Energy Policy. Renewable energy is a measure to achieve both an energy system with low carbon emissions and an energy system less dependent on imported energy. A diversified energy mix is preferable, and the development of renewable energy is therefore welcome. However, in our view targets should be set reflecting the primary priority of the overall energy policy. Setting a new binding target on renewable energy would therefore not be relevant. Thus, the target for climate mitigation is more relevant and is also sufficient in the longer term. This will provide companies and business with the stability they need for investments.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

The Confederation of Swedish Enterprise believes that policies should be market based and technology-neutral aiming at the targets to be achieved. A baseline requirement for all energy markets is that they are well functioning and well integrated. This is not fully achieved when it comes to the European energy market and more work is needed. Long lead times are associated with all new electricity production, not only from renewable energy sources. These lead times must be shortened to ensure that market actors can react on price signals. Renewable energy should be treated equal to other sources for electricity generation. Equal access to the grid for all electricity production is crucial, and market rules and regulations should be harmonized across EU to create a coordinated market. With growing trends towards intermittent energy sources the European grid needs to be upgraded and strengthened in order to stimulate flexible consumption.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

No

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-

(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Renewable energy has received support for some time. Like for all new technologies they should be able to carry their own costs in the

long run. Thus, financial support should not be mandatory or EU-harmonized after 2020. Given the principle of subsidiarity Member States should have the right to decide what energy solutions are most beneficial to their countries, the most cost-effective or favorable in other aspects. Thus, Member States should have the flexibility and the right to choose whether to promote renewables or not. Support schemes for renewables should not be promoted or prohibited by the EU Commission, and the member states should be able to decide how to achieve their target for climate mitigation. As stated above, our view on support schemes is that they are preferably avoided after 2020, as renewables should be able to carry their own costs. However, if a support scheme would be introduced, it is important to make it market-based and technology neutral to facilitate cost-effectiveness and, e.g. a system corresponding to the green certificate scheme for renewable energy implemented in Sweden and Norway. One guiding principle should be that support schemes for renewable energy are limited in time to assure that the technologies in the future European energy system can carry their own costs in the long run.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Given the principle of subsidiarity it will be difficult to align financial support schemes for renewables EU-wide. However, in a common energy market it creates market distortions with un-harmonized support schemes. Therefore – if there should be a support for renewables – it would be most cost efficient and less market distorting to have a harmonized system.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes for renewable energy are in many cases distorting for the market. It is of great importance that support schemes are carefully constructed so that they have as small effect on the market as possible. Some support schemes are more distorting than others. As mentioned above, having different support schemes in different member states will potentially distort competition as it can create problems in trade between member states. Also, it is not creating a level playing field for the different parties in the electricity market. A support scheme must not isolate renewables from the conventional energy markets as this will distort competition in power trade.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious

Length and complexity of administrative procedures relating to authorisation/certification/licensing

impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available -open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional) N/A

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional) None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The problem would be treating electricity from different production sources differently. Electricity from renewable energy sources should be submitted to the same rules, regulations and obligations as any other electricity production.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional) Other (please specify)

Please specify which other rules -open reply-(optional)

D.2.1. Please explain why -open reply-(optional)

Electricity from renewable energy sources should be submitted to the same rules, regulations and obligations as any other electricity production, which also applies to equal treatment regarding obligation to develop network and access to the grid.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional) Increase flexible back-up capacity (capacity payments ...) - Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

To make the European energy system more flexible, there are some components that should be improved. There should not only be a bigger focus on flexible production of electricity, but also a more flexible consumption to help avoiding the demand peaks. There must also be a flexible back-up production to ensure that the system is provided with power when intermittent energy sources are not producing electricity. Also, in this respect, developing an effective technology for storing energy is increasingly important. To ensure that a flexible system is possible, the grids within and between member states must be reinforced and extended in some areas. A cost-effective and market oriented approach is crucial in this area as well.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

Electricity from renewable energy sources should be submitted to the same rules, regulations and obligations as any other electricity production.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

N/A

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

One of the main barriers is that there will be a greater competition for biomass. It is of greatest importance that measures are taken to promote sustainable forestry and increased growth. That there is a lack of infrastructure when it comes to using the produced heat/cooling. If there is no infrastructure the overall efficiency in bio-based CHP will be very low and not acceptable.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

Ideally, sustainability criteria ideally should apply to both: biomass and fossil fuels. Sustainability criteria for solid and gaseous biomass are acceptable if they are based on the existing principles and criteria for forest management as defined by Forest Europe and be verifiable. Next to Sustainable Forest Management, they should contain a strong GHG savings and efficiency component. Furthermore, attention should be paid to the aspect of competition for raw material use (such as for electricity, heat, fuels, use as material, food). Promotion of renewable energy sources such as biomass should not create market distortions and result in changes in the availability or price of raw materials used for example by the pulp and paper, chemicals and food industries. For instance, the chemicals industry and the rest of manufacturing industry use cultivated raw materials from agricultural and forestry products such as meat, plants and timber and their derivatives such as fats and oils, cellulose, starch, sugar and fiber in their production. Pure combustion removes valuable raw materials from a production chain which could have been used as material in manufacturing industry with much higher added value. Substitutes would primarily involve greater use of fossil raw materials, which would be inconsistent with the ecological approach of the entire initiative. Sustainability criteria are essential to ensure that biomass is environmentally, economically and socially sustainable.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes

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for use only if we need clarification about your responses. -open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	NGO
3. Please indicate your country -single choice reply-(optional)	Germany
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The option "Yes, a combination of EU and sectoral level targets is appropriate" does not specify whether these targets should be mandatory. This should certainly be the case. Experience has shown on many occasions that binding targets are more likely to be met - such as the EU's binding targets for 20% renewable energies and a 20% cut in GHG emissions by 2020. Several studies have proven the success of this approach and outlined that the EU will achieve these targets relatively easily. Furthermore, there are an increasing number of voices calling for tighter emissions reductions. In comparison, the other 2020 goal, the 20% Energy Efficiency target, seems lost. It has not been made compulsory and current studies have revealed that EU is not on track to meet it. Even worse, the resistance from a few Member States in the Council against mandatory targets is a step in completely the wrong direction, not least since many studies demonstrate that the lowest-cost potentials for contributing to all the three targets are energy efficiency measures. These experiences demonstrate that mandatory targets have been a cornerstone to initiate process and development in the generation and distribution of renewable energies. Since there are interlinkages between GHG emissions reductions, renewable energy and energy savings, we expect no inconsistencies, but greater efforts for agreeing on tighter targets with subsequent policies in the other areas.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

Besides faster and easier permitting, facilitation policies includes also an improved and best guaranteed prioritised access to the grid. The support mechanisms of fossil and nuclear energy sources and all implicit t or explicit, open or hidden subsidies to these energy sources need to be abolish. Furthermore the internalisation of external costs via taxes on nuclear and fossil fuels need to be expanded.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional) For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Regarding the penetration of RE, differentiation between renewable energy sources and sectors is absolutely necessary. Looking at the shares of different renewable sources in the sectors electricity, heating and cooling and transport, various renewable sources are only represented to a larger extent in the market for electricity. The other sectors are rather unbalanced. The heating and cooling sector, for example, is dominated by biomass, which will be responsible for 50% of total renewable growth in the sector up to 2020 (COM (2011) 31). In the transport sector, biofuels of the first generation are expected to remain the predominant energy source. To increase the share of electric vehicles (meaning those vehicles which run 100% on sustainable renewable energy sources) and second generation biofuels, it will be necessary to invest in research to bring down the cost of those technologies. Although the 20% target was ambitious then when it was agreed in 2007, it cannot remain at the same level after 2020. To realize a low-carbon society and economy, this target will not be sufficient. Further, the reasons which paved the way for the agreement on promoting renewable energy still remain and may have even become more compelling: Decarbonising the generation of energy to tackle the climate threat as well as improving the security of energy supply. This means, the share of renewable energies in the total energy mix needs to be substantially increased.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional) Open up national support schemes to cross-border projects

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional) No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional) Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Especially in the electricity sector, more cooperation and better coordination among Member States is needed. The market is still largely fragmented into national markets with numerous barriers to open and fair competition. This is mainly attributable to the fact that fossil and nuclear energy products still receive both explicit and implicit subsidies, few of which can be justified on ecological or economic grounds and which should therefore be abolished. The focus on the heating and cooling sector should be on financial promotion, which appears to be required also for the future.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional) Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional) No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

Only this kind of privileged access and dispatch will ensure the further substantial growth of RE. It has proven to be successful in the past and hence this very important and positive element should not be abolished.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	<p>Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)</p>
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>Wholesale markets would have to move to reflecting full costs</p>
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## F. RENEWABLES IN HEATING AND COOLING

<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	<p>Costs/lack of financial support - Building regulations etc. - Lack of awareness</p>
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<p>F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)</p>	<p>Biomass - Geothermal - Solar thermal</p>
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The promotion of renewables, and concrete public financial support, should be linked and graded depending on the status quo and on additional efforts for increasing energy efficiency.

## G. RENEWABLES IN TRANSPORT

<p>G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)</p>	<p>Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Other (please specify)</p>
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Please specify which other barriers -open reply-(optional)

We did not select "The limits of availability of sustainably produced biofuels" as a barrier to the stronger uptake of renewable energy in transport, as we consider current sustainability standards to be insufficiently stringent. If stringent sustainability criteria were in place, then this would be a barrier against the stronger uptake of particularly first-generation biofuels in the transport sector.

<p>G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)</p>	<p>Rail - Air</p>
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G.2.1. Please explain your answer -open reply-(optional)

With annual growth rates of 4%, aviation is one of the fastest growing modes of transport in the EU - and also one of the most polluting, in terms of GHG emissions / passenger. Furthermore, there is no indication that this trend is likely to be reversed in the near future. Airbus expects annual growth rates of 4.4% by 2025. (figures from the Federal Ministry of the Environment in Germany, see: <http://www.bmu.de/verkehr/flugverkehr/doc/40189.php>). So there is on the one hand great potential. On the other hand, it is very questionable whether aviation could be ever managed sustainably. So far, only biofuels might be a realistic renewable energy source in the aviation sector. However, in view of high growth rates in the sector, and its already large fuel consumption, it is not realistic to

assume that this growing demand could be fully met by biofuels – particularly bearing in mind that many problems and sustainability issues associated with biofuels have not yet been resolved, e.g indirect land-use change (ILUC). A modal shift to rail may prove to be an effective means of preventing continuing growth in the aviation sector. Rail is a far more environmental friendly mode of transport because it results in less GHG and other air pollutant emissions. However, so far in the rail sectors, renewable energy sources were only used to a negligible extent - thus, a large potential is yet unexplored. Furthermore, the electricity for railways could rather easily be generated by RE.

## H. SUSTAINABILITY

<p>H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)</p>	<p>Yes, sustainability criteria should apply to both all biomass and fossil fuels</p>
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H.1.1. Please explain -open reply-(optional)

Only with the sustainable production of all biomass and fossil fuels (the latter will have to be phased out as soon as possible as – per definitionem – they cannot be sustainable an integrated solution for energy provision in the transport sector can be ensured.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>No (please specify how they should be amended or which elements added)</p>
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Please specify how they should be amended or which elements added  
-open reply-(optional)

Please see subsequent replies

<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
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Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

The cooperation e.g. with Norway and Switzerland, but also with North Africa and with the more western members of the Commonwealth of Independent States should be further promoted.

<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>Yes (explain in which way and to which degree)</p>
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Please explain in which way and to which degree -open reply-(optional)

Those should be prioritised which will provide more transmission capacity of use also for other EU countries. Private investment should remain the main pillar, but in those cases possibly incentivised and accelerated by public support.

<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the

Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

The EU should follow very similar objectives for that partnership as internal EU renewables policy, yet with a focus on the geographical advantages of particular renewable energy sources, such as solar energy.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Yes, such cooperation should be further fostered, because this will help investors to get political guidance about priority setting. It will also attract investors, as these will see the political commitment and can thus trust in the policy which will facilitate investments. Hence, this experience could be generalised e.g. for the Mediterranean region, yet, it may still take a few more years there, as the cooperation is not as strong as in the North Sea.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the

Kristell Guizouarn representing SOFIPROTEOL

<p><b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	Industry
<p>3. Please indicate your country -single choice reply-(optional)</p>	France
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>Le groupe Sofiprotéol est ses filiales soutient fortement la mise en œuvre de cibles par secteur, en particulier dans le secteur des transports via l'utilisation de biocarburants. En effet, l'industrie des biocarburants et en particulier du biodiesel s'est développée afin d'être en ligne avec les objectifs 2020, ce secteur est donc la voie principale à privilégier pour l'atteinte des objectifs au-delà de 2020. Les biocarburants de première génération vont représenter la voie essentielle de l'atteinte de l'objectif de 10% d'énergie renouvelable dans les transports en 2020, la seconde génération viendra en complément de la première au-delà de 2020.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	For selected technologies/circumstances/markets (please specify)
<p>Please specify which technologies/circumstances/markets -open reply-(optional)</p>	
<p>Il est fondamental de maintenir un soutien financier aux énergies renouvelables au-delà de 2020 afin d'être en mesure de poursuivre le développement du secteur des biocarburants, en particulier afin de garantir les investissements pour la recherche dans les biocarburants de seconde génération produits à partir de biomasse ligno-cellulosique. Ce soutien est essentiel pour assurer une construction solide et pérenne des outils industriels et pour pouvoir assurer de la visibilité à l'amont agricole qui fournit les matières premières.</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a</p>	Accelerate convergence of national support schemes

cost-effective deployment? -multiple choices reply- (optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
Il est fondamental de maintenir un soutien financier aux énergies renouvelables au-delà de 2020 afin d'être en mesure de poursuivre le développement du secteur des biocarburants, en particulier afin de garantir les investissements pour la recherche dans les biocarburants de seconde génération produits à partir de biomasse ligno-cellulosique. Ce soutien est essentiel pour assurer une construction solide et pérenne des outils industriels et pour pouvoir assurer de la visibilité à l'amont agricole qui fournit les matières premières.	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
La transposition de la Directive est une charge administrative très importante pour les opérateurs économiques étant donné les difficultés pour utiliser un moyen de preuves. En effet, il n'y a pas de système national dans plusieurs pays et l'évaluation des schémas volontaires est extrêmement longue et difficile. Par ailleurs, la problématique de l'ILUC est très préjudiciable aux producteurs de biocarburants car le manque de vision claire et d'études scientifiquement robustes empêche toute visibilité sur les décisions de la Commission Européenne sur le sujet.	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Other (please specify)
Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)	

Il est important qu'il n'y ait pas de distorsion de concurrence d'un pays à l'autre, toutefois une reconnaissance mutuelle systématique entre pays risquerait d'entraîner de la fraude étant donné qu'un pays ne peut contrôler réellement que sa production nationale. Il paraît fondamental que l'ensemble des états transpose la Directive dans les mêmes délais pour limiter les barrières sur le marché.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

La demande en énergie renouvelable par les états membres devrait être supérieure à la cible et permettre d'utiliser différents moyen : la généralisation de l'utilisation du B30 pour certaines flottes devrait être proposée par exemple. Il faut noter que l'industrie du biodiesel est en surcapacité par rapport à la demande alors que cette production serait essentielle à l'atteinte des objectifs dans les transports en 2020 et au-delà.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Other (please specify)

Please specify which other barriers -open reply-(optional)

C'est l'incertitude en terme législatif qui freine en priorité le développement des biocarburants. En effet, le manque de concertation entre états et avec la Commission Européenne entraîne un important manque de visibilité long terme pour les investisseurs. De plus, les plans d'actions nationaux devraient faire l'objet d'un suivi particulier en ce qui concerne les étapes intermédiaires afin de s'assurer que les mesures ont été prises pour réaliser les objectifs pour chaque pays

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Air

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

La Directive Energies Renouvelables via son article 17 impose le respect d'un certain nombre de critères contraignants liés à l'usage des terres. Il est important de laisser le temps de considérer l'impact positif de la mise en œuvre de cette Directive en Europe et dans les pays Tiers. Il ne faut pas multiplier les contraintes s'en prendre le temps d'analyser leur effet à court, moyen et long terme. De plus, L'Union Européenne dispose d'un certain nombre d'outils qui rend son agriculture l'une des plus durables au monde. Il convient d'observer ce qui est mis en place dans les pays tiers avant d'alourdir une nouvelle fois la législation pour les opérateurs européens.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient

No (please specify how they should be amended or which elements added)

to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

Please specify how they should be amended or which elements added  
-open reply-(optional)

Il convient que chaque état réalise ses propres objectifs en terme d'énergie renouvelable. En effet, la mise en place du double comptage a montré les effets pervers de certains mécanismes prévus par la Directive qui sont détournés pour diminuer l'incorporation réelle de biocarburants.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

Aucune Depuis plusieurs années l'industrie du biodiesel européen est confrontée à des systèmes de fraude à l'exportation mis en place par certains pays tiers. Il est essentiel que les règles soient les mêmes pour l'ensemble des opérateurs économiques et que les contrôles et la traçabilité soient également exemplaires, car, par le passé, ce manque de traçabilité a conduit à la destruction d'une partie du marché du biodiesel européen avec le développement du « B99 ». Il faut noter que l'industrie du biodiesel est en surcapacité en Europe. Tout accord avec les pays tiers pénaliserait encore plus l'industrie européenne et son amont agricole.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of

renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Vattenfall AB, ID-no 12955024114-93, amelie.pans@vattenfall.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Sweden

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case

No, targets for renewable energy sources are unnecessary

with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

There are no doubts that both an increased use of renewable energy and a more efficient use of energy will be very important ingredients for achieving the EU's long term climate targets. Such kind of measures can also make substantial contributions to improve the security of supply in the EU's energy markets. The strong interdependences between the objectives in the energy and climate policy (reducing GHG-emissions, security of supply and competitiveness) require a careful and balanced approach in order to support a development that is predictable and not overburdened by a fragmented regulatory framework which creates difficulties to make the necessary long-term investments. Vattenfall considers that medium-term EU-wide climate targets beyond 2020 (e.g 2030) need to be formulated and that this ambition must be inscribed in the linear reduction factor of the ETS allowance cap. This will produce a price signal sufficient to trigger decarbonisation and increases of RES and energy efficiency. Supplementary renewables targets (and energy efficiency targets) might be needed for security of supply or other purposes, but a thorough cost-benefit analysis must in that case demonstrate that the decarbonisation target alone will not be enough for delivering the desired (justified) level of SoS.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Facilitation policies are important but there is no need for improved access to the grid for RES compared to other production alternatives. Long and little flexible permitting procedures make it hard to deploy the best available technologies. Once the permit is granted, often new technologies have entered the market which cannot be applied because it would require starting the permit process over again.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

It is important for further discussion about support to make a clear distinction between almost mature (new) technologies and immature technologies: 1. For almost mature (new) technologies competition must be introduced to a much higher degree. The conditions for participating in the electricity market should be the same for RES technologies as for conventional technologies. The basic driver for these technologies should be the ETS-system. Thus, as mature renewable electricity technologies reach cost-competitiveness they should be integrated in the market and financial support should gradually be phased out post-2020. 2. For more immature technologies, which are expected to deliver volumes in the long-term perspective, more development and consequently support is needed. Technology specific schemes or programmes for innovation may be a solution (offshore wind, PV, wave power etc), but volume caps and clear time frames are essential to limit the costs. Immature technologies may be at different stages in their development, which must be considered when designing such innovation programmes. Innovation is an issue of common European interest and as much cooperation as possible would be preferable. Schemes could be organised for certain regions; offshore wind in the North Sea or Solar PV in the South of Europe are two examples. Technology neutrality would still be preferred if possible.

B.2. If renewable energy sources require support post-2020, how do you think this can

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes -

<p>best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)</p>	<p>Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)</p>
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>For the best integration of RES into the electricity market the support scheme must enable: - trade of the RES value for target compliance to be separated from the trade of the electricity production. - Cross border trade of both the RES value and the electricity RES-producers should be responsible for selling their power to the market and consequently responsible for the ancillary services needed when entering the production into the market, especially balancing. Technology neutrality is also an important step for making support more market based. Certificate schemes have the best potential for enabling such a development. It should be noted that all changes required for renewable support schemes should not be retroactive i.e. they should preserve the status quo for existing plants built under a certain regulatory regime These investments have already been made, based on a given legal subsidy framework and these schemes should be phased out or adjusted gradually in accordance with the existing regulation. One possibility to phase out national schemes would be to freeze all national support schemes at a certain point of time, to be operational with existing conditions for only already built plants, and then take a decision what type of technologies that would need further support as proposed under B1 bullet 2.</p>	
<p>Please specify for which technologies (if applicable) to phase out support schemes over time</p> <p>-open reply-(optional)</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>N/A</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>Yes (please explain how this could be achieved and which support structure you consider most suitable)</p>
<p>Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)</p>	
<p>The lack of stability of support schemes is a huge problem for renewable energy developers. National support schemes seem to be subject for constant changes. A harmonized European support system where the level / type of support independent from the national political situation could further boost the industry. An EU framework that would guarantee long term stability for investors with oversight of the European Commission to protect the stability would be an important improvement in the regulatory framework for renewables. As mentioned under B1 (bullet 2) for more immature technologies, which are expected to deliver volumes in the long-term perspective, more support is needed. It is important that financial support is gradually phased out as technologies mature. The industry must see a market around the corner for innovations and commercialization to be effective.</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>There are big differences between different sectors in terms of potentials, conditions like price elasticity of demand and supply etc. The focus on specific sectors will definitely not lead to the most cost efficient solution for deploying RES. An EU-wide cross-sectoral approach would be therefore preferred. Generally, RES-heat solutions in some countries might be a cheaper substitute to the use of RES-electricity in another country. A common approach for financial support is necessary for creating a level playing field. The way this should be organised is an issue for further consideration. A common approach is needed for the electricity sector in particular due to the deeper EU integration and cross border trade possibilities.</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	<p>Member States need to open their support schemes to renewable generation from other Member States</p>

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

First of all there is no legal rule in the primary EU-legislation presented that justifies trade barriers for RES and participation in other countries support scheme. Trade barriers are national practices. For the further discussion about EU-wide or not EU-wide support schemes this issue must be clarified. A convergence of support schemes might be achieved by a higher level of coordination between the existing systems, e.g. by improved guidelines for Member States. Opening up for competition domestically and internationally would be the most efficient first step. RES shall be traded across borders and separated from the physical power. The Swedish-Norwegian certificate system is a good example that could be used as a raw model. Member states with low domestic potentials and consequently high costs should in practice contribute financially to exploring RES potentials in other countries by using cooperation mechanisms. If the conditions are equal for all type of production facilities to take part in the market there is basically no need for any specific compensation. The cost allocation for the expansion of the high tension grid domestically and cross border as a consequence of exporting RES, not as a condition for RES export but as a consequence to maintain a well functioning market, may be a topic for discussion.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

The present national support schemes have different distorting effects due to different designs. Especially schemes offering different conditions for grid access and balancing for RES-technologies than conventional power plants have bigger distorting impact than others. Schemes hindering cross border competition and schemes with technology specific support hindering technology competition do distort the market. Generally, feed in tariffs are more distorting because they exclude RES-E from the power market, therefore limit liquidity and competition on power markets. The variety of financial support systems also creates distortions.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

All the listed aspects are relevant but the length and complexity of administrative procedures is the obstacle having largest negative impact. We believe that shortened and streamlined permit granting procedures is absolutely necessary to get the renewable energy generation and infrastructure, most importantly electricity transmission lines, in place for 2020 and beyond. More specifically permits are insufficiently flexible, too detailed and too much set in stone. This prevents developers from using the best available technologies at the best location rather than relying on what was available at the time of applying for the permit. Introducing bandwidths e.g. in height, capacity, type of foundation, positioning, etc. could solve this issue. Public acceptance is crucial for getting all the necessary investments in generation technologies and infrastructure to materialize. Many stakeholders in society, not only the energy industry, need to take on this responsibility.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

It is important that a legally secure process is ensured. Maximum-time frames and other general frameworks could be applied to speed up the permitting procedure. A European approach to common EU projects should be designed on authorisation procedures.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Following a growing share of RES a lack of level playing field between supply technologies and lack of harmonized rules for balancing, grid connection and access, create regional imbalances within and between member states that further increase the stress on the transmission system, making the issue even more urgent. That together with the lack of proper cross border cost sharing of the grid expansion needed to realize RES expansion, will in the longer run impact both pace and potential volume of further RES expansion Due to the dependency on secure operation of the power system, an interconnected power system creates interdependencies which make harmonization and a level playing field necessary. To reveal and allocate costs in time and place where they occur is necessary to limit total costs and to create incentives for innovation in the area of system services and efficient integration of the renewables. This is necessary to support the legitimacy of policy targets.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

None of the above

D.2.1. Please explain why -open reply-(optional)

An increasing share of intermittent generation will increase the value and need of a well functioning internal wholesale market with proper scarcity signals. These signals become increasingly important to support not only cost efficient transition towards a low carbon economy, but also the adequacy of electricity supply in the interconnected EU system, and in the end the legitimacy of the EU energy policy. It will thus be of increasing importance to support a level playing field, and that RES is fully incorporated on the electricity markets, taking responsibility for own imbalances and dispatched on equal terms as other generation sources. These relevant issues need to be addressed way before 2020.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

Support acceptance for price volatility and market based prices reflecting full cost of generation: Indeed, demand response is one of the key factors that may facilitate further expansion of RES. This demand response can, depending on design, apply to consumers of various sizes. Demand response and the innovations needed to develop technological solutions must build on market price signals (e.g. day-ahead, intra-day and real time). Hence it is of utmost importance to support the development of prices that reflect the physical value of electricity in different locations in the grid.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing

responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

A level playing field is a prerequisite and necessity to improve forecasting and scheduling in order to limit system cost. In addition, to create incentives for innovation in the area of system services and efficient integration of the renewables it is important to reveal and allocate costs where they occur. For the ongoing transition of the energy system to be reflected also in the market design it will be of increasing importance that RES is fully incorporated on the electricity markets. Our general view is that all externalities and costs are internalised in the price. The general rules for access to the grid and balancing responsibility should be neutral what regards technologies and that all generators individually take responsibility of their corresponding imbalances. This is regarded as an important signal to support a cost efficient and secure supply of electricity and a supportive development of the transmission grid. In order to support the market integration of RES it is also important to recognise the value of a further development of intra-day trade across borders in order to provide RES generators with sufficient possibilities to manage their imbalances.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

As stated above response to signals of scarcity is an important facilitator for RES expansion and must be promoted and rewarded. In order for this response to support the flexibility needed to facilitate the integration of RES without compromising with a secure supply of electricity, the incentives need to be related to the value of electricity (in various time frames) and thus reflect the physical value of electricity (market price) in different locations in the grid. This also implies that the acceptance for price volatility will increase as the consumer side then is better equipped to control their own demand response. Any transitional system needed to ensure sufficient back-up capacity should be designed as capacity of last resort implying that all market based resources are exhausted first and that market prices are not distorted.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

-single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

-multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

For District Heating and Cooling, the lack of level playing field in relation to the competitors is the main barrier. Letting small-scale fossil alternatives face the same CO<sub>2</sub>-costs as district heating operators would increase the market share of efficient large-scale systems. And making large-scale producers eligible for the same financial support for renewable energy as small-scale producers would increase the economic efficiency of the support schemes and radically increase the share of renewables in large-scale systems.

F.2. What pathways do you consider to be the most promising for further increasing the share

Biomass - Electrification together with higher share of renewables

of renewable energy in heating and cooling in electricity production  
beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The main tools to achieve increased energy efficiency and higher share of renewables are by promoting: • district cooling/heating systems with CHP plants using renewable fuels • heat pumps where district heating is not available

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for goods - Water - Air

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

Biomass is a resource which can be used for multiple purposes. Energy is one of those. However in a long term perspective – and in the light of resource efficiency – the way biomass is utilized can be different from today. The understanding of the value of the resource as such and how it can be used in the future is of course essential before building energy conversion plants. Equally important is to better understand the ecological consequences of an increased utilization of biomass for industrial purposes. Limitations and restrictions due to biodiversity and sustainability reasons needs to be developed in order to predict the long term availability of the resource. These criteria are also essential for building a trustworthy international market for biomass. The conclusion is that as knowledge about a sustainable and climate neutral utilization of biomass is gathered the criteria need to be applied for all use of biomass. Similar sustainability criteria might be needed also for other fuels but to avoid too complex design of such criteria it is recommended that renewables are treated within a separate set of principals.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added  
-open reply-(optional)

First of all an EU-target should be a joint effort for the Member States. The national renewable targets were settled based on a cost burden approach. These were decided as an increase of 5,75% as a flat rate and additional increases based on each country's GDP.

This means that the national targets were not based on the renewable energy resources available in each country. Logically cooperation would most likely be the most cost efficient way to reach the EU-target. Cooperation should consequently be enabled on EU level based on a joint framework and not on bilateral agreements. To create cooperation based on bilateral agreements is inefficient, which will make multilateral cooperation very complicated. At EU level the same type of arrangements as for the ETS system (registers, transfer possibilities etc) should be set up to enable cross border trade.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
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Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

The Swedish-Norwegian common green certificate scheme is a good example of cooperation, which could be used as a raw-model.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	N/A
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I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	N/A
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

International cooperation is relevant for emission reduction measures, due to the global dimension of CO2. Support for renewables is more an EU internal affair also including security of supply aspects. This aspect must be considered when judging upon involvement of third countries.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

The initiative is very interesting but the market actors must be able to take part. Coordination of grids for offshore wind may lead to cost reductions for the grid and also enhanced integration of the internal market by increasing interconnection capacities. Areas where these two aspects can be realised should be prioritised.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain - Other (please specify)
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Please specify which other key challenges

-open reply-(optional)

Technology performance and cost-competitiveness: Within a competitive market based environment RES needs to be subjected to and meet highest requirements on technology as well as cost. No reason to pay more than necessary even if the properties of the energy sources are well in line with societies requirements. Reduced cost for operation and maintenance remains a key component. For wind energy in particular when siting takes place in more remote areas or off-shore. System integration: As penetration - of in particular the variable energy sources wind and solar energy - is making the issue of integration into the energy system more complex and costly. A higher degree of coordination between supply, demand and access to infrastructure is needed. This is an area of R&D which also becomes and integral part of other R&D areas within the SET plan. Other: Within the area of biomass a higher degree of cost efficient utilization should be developed. Biomass is limited and needs to be utilized in the best way from a resource point of view.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The market is one of the best incentives for improving the competitiveness of technologies. To handle the absorption of energy from the variable energy sources becomes one of the key facilitators for a successful deployment. Not only technology forms the base for a successful development of the energy system. Public perception and acceptance is a crucial aspect if the massive introduction of renewable energy is going to be as well timely as sustainable.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Among the Industrial initiatives there seems at present to be sufficient headlines to cover technologies that meet the criteria large penetration and industrial interest. In the outlined transition of the future energy systems all options needs to be part of the toolbox. With credible and consistent policy measures the investors on the future energy market can make assessments of cost and risk. Reliable suppliers of technology form an essential aspect. This makes the set up of the R&D and Innovation programs very important. With the limited time frame available and an international competitive environment industrial partners that can bring technology to the market on commercial terms is absolutely essential. Not only technology is, however, important to reach the ambitious long term ambitions. System analysis, public acceptance aspects, fuel costdevelopment and availability are only some examples of aspects that needs to align to the technological development.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

One of the strong and necessary preconditions for a successful development of technology that also reaches the deployment stage is the belief that there is a commercial market. In the period after the market liberalisation the need for new capacity has been limited. Much of the investments have been stimulated by various societal programs supported by specific policy measures and R&D initiatives. As the energy system gradually needs to be renewed or adapted for new requirements a new regime for investments would be preferable or is rather necessary. The third aspect in the energy policy triangle needs more focus, namely the cost effectiveness parameter. With a stronger market pull the interest in technology development will be stronger and the applications will also be based on the possibility of large scale deployment

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

With the right kind of long term incentives e.g. the EU-ETS and a market based approach the industrial ambitions should be there to deliver technology that meet the requirements from the investors. R&D projects needs of course to have goals in terms of time and money but to force new technology into the market without the support of possible investors seems to be risky. Either the degree of innovation is too little or the risk of investing in premature technology is preventing a successful deployment.

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Paul Greening, on behalf of European Automobile Manufacturers Association (ACEA), pg@acea.be
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	Targets post 2020 unnecessary. ACEA support increasing the availability of renewable energy sources through the setting of targets that apply to the provision of renewable energy that meet sufficiently high GHG reduction and sustainability thresholds. The issue of mitigating against climate change and the reduction of GHG emissions must be addressed through an integrated approach that balances a reasonable and fair contribution from all sectors and with the active involvement of policy makers to provide the right policies and legislative framework and with a clearly laid out timetable that will afford industry sufficient time to adapt to any new justified requirements. It is therefore very premature to raise the subject of what happens post-2020 before the Commission has concluded the sensitive public debate about ILUC and sustainability and access to the right biomass feedstock that have a direct bearing on the possibility to increase biofuel content. The Commission must ensure a harmonised implementation of the 2020 targets first, i.e. implement 2020 targets first in a way that provides a harmonised and sustainable pathway and then analyse whether an increased availability and high level of sustainability of renewable energy sources post-2020 is possible based on cost-effectiveness coupled with support mechanisms to ensure that renewable energy can be delivered and consumed. Only after this analysis is done can the question be addressed to stakeholders in a meaningful way.
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Direct policy support now towards advanced and second generation biofuel production processes remain essential to help achieve the 2020 target of 10% renewable energy use in transport and to have any hope of meeting any targets to be considered post-2020. These advanced processes can utilise the same types of sustainable biomass sources as well as others, but they deliver a more effective and GHG-efficient solution that will increase the competitiveness of the EU economy in the energy supply sector. As noted in A.1.1, the Commission must complete the legislative framework for the 2020 targets and should also consider setting targets for second generation biofuel contribution as part of that target and to recognise that pathway for helping meet any targets beyond 2020 that will give a clear market signal and activate the necessary support policies towards those second (and third) generation processes. Less GHG efficient processes can continue to exist within certain boundary conditions but any support mechanisms must be phased-out in favour of supporting second (and third) generation processes.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

Yes

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

On-going financial support is essential for the development and expansion of the EU-wide infrastructure for alternative technologies such as EVs and fuel cells as well as alternative fuels such hydrogen, CNG and biogas that can substantially contribute to achieve the RED 10% target and whose uptake is strictly linked to the development of infrastructure. Financial support will also help encourage the purchase and use of alternative fuelled vehicles. Electrification of the mobility and transport system can only be a part of a long lasting solution. There is no silver bullet. Electrically chargeable vehicles may promise many benefits for towns and cities, such as very low to zero tailpipe emissions and reduced noise. However the ability for the consumers to select any technology should be guaranteed. However, overly high expectations risk hampering the ongoing industry efforts for a successful introduction of this new technology, which would result in a delay of the exploration and deployment of the full CO2 reduction potential of this promising technology. New technologies generally come in low volume and at significant cost premiums first, which needs to be off-set by a positive policy framework. National governments need to come up with a balanced framework in order to contribute to a realistic market perception of electrically chargeable vehicles and internal combustion engines using conventional fuels.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

First generation, low GHG reducing biofuels.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Transport is a consumer of renewable energy and the auto-industry has already provided the necessary technology to ensure that biofuels effectively contribute to reaching the 10% RED target. Since 2008 all new cars have been E10 or B7 compatible, even though

such fuels have failed to be available across the EU. In order to reach this goal, the appropriate fuel quality and fuels standards are needed and the standards making process is one link in the chain that has so far not delivered the necessary harmonised E10 standard. There must be a common availability of renewable energy so that customers have access to the same energy sources and quality of energy sources across the EU without discrimination. For biofuels, this means the customer must have access to the same quality of fuel across the EU. Hence, standardisation plays a crucial role and the integrity of the EU internal market of the internal market must be respected - and for the consumer's benefit. Electrically charged vehicles require a common approach across the EU. For electricity, the source of electrons from renewable electricity generation is less sensitive but renewable electricity should aim to phase-out other more polluting electricity generating methods.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others  
(please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Still there are support directed towards fossil energy (see IEA-report) and globally the subsidies are higher to fossils than to renewables. One problem we see in the EU is that several member states tax renewable fuels higher than fossil fuels or have other regulations that actually hinder the market introduction of the right sorts of biofuels.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

There are difficulties to get biofuels nationally approved if there are no common standards. The processes are tedious and complicated. National requirements of a specified denaturant may make the handling of, for example, ethanol as a fuel (instead of a chemical or a beverage) impossible or subject to a much higher tax.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

Doubts about sustainability of renewable energy (e.g. non-concluded ILUC debate, claims about food vs fuel competition). Questions over future access to sufficient resources at an acceptable price. A stable and long-term commitment to a common set of sustainable harmonised fuels across the EU market is needed, not just in individual member states. However, stakeholders do not have confidence that the European Commission and the Member States will manage to develop such a harmonized approach. For the auto industry, major investments are being made in alternative propulsion systems. The technology exists but putting it into production with confidence that it will have a reasonable return on investment and market share growth depends on stable and long-term support to overcome issues with initial market entry of new technologies. Past experience has frequently resulted in short term support that is withdrawn with very little notice. This impacts negatively both the sales of the relevant automotive products and leads to withdrawal of the infrastructure for existing products.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail - Water - Air

G.2.1. Please explain your answer -open reply-(optional)

For road transport, electrification of urban transport with a harmonized infrastructure is a promising area to develop further the share of renewable energy in transport but on condition that electricity is produced sustainably and considered as 'renewable electricity'. Heavy-duty vehicles will face the biggest hurdles for electrification but technologies do exist for hybridization and electrification of vehicles within certain daily duty cycles.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

Possibly. However, the EU should complete the sustainability criteria for biomass etc now instead of asking questions beyond 2020. Without completion of the whole scheme to account for biomass sustainability, the necessary production technologies will not be introduced and the competitiveness of the EU energy sector is being undermined. This is a major criticism of the EU biofuel policy. If this is addressed now in the proper way to promote only the best performing biomass sources with along-term vision for investment, there appears no need for additional criteria post-2020.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Mattias Hellström, Fortum Oyj, mattias.hellstrom@fortum.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Finland

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

No, targets for renewable energy sources are unnecessary

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Fortum is of the opinion that after 2020 the EU should have only the overall single target for CO2 emission reduction and the EU ETS should be the major policy instrument on decarbonisation at the EU level. In a post-2020 perspective, ETS should be used to allow RES and energy efficiency policies to converge. It would allow for achieving a consistent and economically efficient approach to decarbonisation, while facilitating affordability and security of supply. The binding 2020 targets have introduced conflicts with other EU policies, e.g. EU ETS and the internal market, which will become more pronounced as the renewables market share increases. Fortum considers that after 2020, renewables should progress towards being fully integrated in the market, with a strong carbon target, price and market implemented over the entire energy system.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

After 2020 there should be no other subsidies than RD&D subsidies. RES technologies can be best supported through efficient R&D and innovation programmes and measures (including demonstrations), not through generation subsidies. Support mechanisms for all generation technologies should be phased out by 2020. Energy production which is heavily based on public subsidies doesn't provide a secure investment environment for operators because subsidy schemes can easily be changed - even retro-actively - according to the

fiscal situation in Member States. This has a negative impact on the investment climate and cost of capital for energy sector investments. Lengthy permitting procedures and differences in this respect in member states and NIMBY aspects are major obstacles for RES promotion. But these facilitation policies should deliver results already before 2020. As now proposed by the Commission in the Infrastructure Regulation, Member states urgently need to reduce the length of permit granting procedures for energy infrastructure. Current periods of up to 10 years are not acceptable. We thus support both the proposed one-stop shop and the envisaged time limits and consider them as best-practices for successful energy infrastructure investments in all Europe. The development of flexible DC transmission grid technologies for connecting offshore wind parks should be an important part of the RD&D activities. All types of new technologies, not only RES, could be supported by

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will continue to be necessary to support specific emerging renewable technologies post 2020, but only in the form of Research, Development & Deployment funds and only for those technologies which have not yet reached maturity.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

All of the options listed in B2 are needed, and as much as possible already before 2020, and the development should take place in line with the evolution of the internal energy market. If market based support schemes (like the Sweden-Norway certificate scheme) are used, there is no need to decide on when to phase out the subsidy, since the market prices will go to zero when investments in RES are profitable without support.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Fortum prefers progression towards a common EU RES certificate market, without technology specific support. National support schemes lead easily to support competition between EU countries which will effectively prevent RES generation investments to locate in the most optimal way in Europe, hence leading to sub-optimisation and cost-inefficiency and finally to higher overall costs to the society. According to Fortum's estimations a common RES certificate scheme in the Nordic electricity market would result in €950 million annual savings, at European level the cost-benefits could be manifold.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Financial support schemes in the EU should be gradually aligned and phased out by 2020.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity,

heating and cooling, transport). -open reply-(optional)

Electricity market is becoming more and more European and the rules should be aligned according to EU legislation. Heating and cooling should be part of a market-based system even if the activity is local and not in a competition in a larger area.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

In order to curb climate emissions cost efficiently it is important that the renewable capacity is built at the best locations. The current RES system based on domestic actions and national support schemes lead to significantly higher costs for European taxpayers and/or energy consumers, to subsidy competition between Member States, and to trade barriers. High and geographically heterogeneous public subsidies to renewable energy production are neither economically viable (as they do not promote competitiveness and efficient internal markets in energy) nor politically acceptable in the long run. A bottom-up convergence on the basis of the Norway-Sweden joint certificate scheme would be desirable for example. It is also equally important that the intermittent power is not prevented to reach the consumers by grid bottlenecks.

Please explain how it could be achieved for third countries -open reply-(optional)

Article 9 of the RES Directive should be implemented by Member States. Constraints applied to flexible mechanisms foreseen by Directive 2009/28/CE should be relaxed, such as the limitations to import from third countries. It will be important to ensure that definitions of renewable technologies are consistent and that double counting is avoided, i.e. imported renewable power should not count towards the target of the exporting country.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

YES, some support schemes are more compatible with the well-functioning of market dynamics than others. Regardless of the scheme applied, it is essential that RES generators contribute to balancing and grid connection costs. It should also be profitable to optimise the RES generation based on the actual prices in the electricity market, which can be achieved by premium and certificate support models. We prefer RES tradable certificates to any other promotion scheme.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing is an issue to be dealt with as a priority

C.2. Which policy response to the problems identified above do you consider appropriate?

Push for more standardisation and harmonisation on EU level or mutual recognition

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The rules for grid connection and power market operation do not create obstacles to RES generation when they are equal for all generation forms and thus do not cause unnecessary cost to generators or electricity users. European-level balancing market integration will help in keeping the balancing costs affordable in spite of the increasing share of intermittent RES generation.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

None of the above

D.2.1. Please explain why -open reply-(optional)

No renewables-specific rules are needed, as RES generation can be most cost-efficiently integrated in the market by using common rules for all generation forms. When support mechanisms are still used, they should enable market-based response to actual electricity prices so that no TSO-initiated curtailment measures are needed.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

The power system flexibility can be increased by both market integration and technological development. New smart grid technologies and hourly pricing options extend demand response possibilities. Infrastructure investments and market coupling enable efficient trading between different market regions for smoothening RES generation variations and backup generation ramping requirements. Market prices must be always allowed to reflect the hourly supply-demand balance, affected by RES variability, in order to give right signals for flexible and back-up capacity, as well as for demand response. Especially biomass-based RES generation, in addition to renewable hydropower, can be dispatched based on the market situation and is thus a suitable source for offering balancing services to TSOs. Intermittent wind and solar power can also offer balancing services especially for surplus generation situations. As additional measures, adequate ancillary services (control reserves) must be contracted by the TSOs for securing the power system stability during the operational hour, and the balancing markets need to be integrated in order to efficiently utilise all the European balancing resources.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

Possible RES support should enable RES generation to react to actual market prices, which can be realised by premium and certificate support models. All generation forms should be handled equally in balancing.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Current wholesale power market arrangements, strengthened by increased market integration and market coupling are adequate in rewarding flexibility. The regulatory framework needs to ensure that the European-wide market coupling of the day-ahead and intraday market, as well as balancing market integration are realised quickly, and that there are no artificial price caps or floors limiting the flexibility potentials in both generation and power demand. The electricity retail market flexibility can be increased through the smart grid development enabling hourly pricing options for consumers, accompanied by intelligent solutions for steering the use of electricity.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing is appropriate

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

-multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Drifting regulation by incoherent and overlapping steering mechanisms (taxes, subsidies, etc.). There should be long-term harmonized EU-wide schemes that would provide level playing field both geographically and between different types of energies (especially incentives for RES heat compared with those for RES electricity). However, emission trading system would solely generate enough support for RES if scarcity of CO2 allowances would be implemented by EU.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

-multiple choices reply-(optional)

Biomass - Electrification together with higher share of renewables in electricity production

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

-open reply-(optional)

Both renewable and energy efficiency are equal tools to achieve low carbon heating and cooling. Target can be reached both ways but costs between alternatives may vary a lot. Therefore, there should not be support schemes or other regulation that prevents to select optimal local combination between renewable and efficiency. However, emission trading system without additional regulation would provide optimal combination between RES and energy efficiency.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable

Costs - Lack of standards - Lack of infrastructure - Lack of awareness - Other (please specify)

energy in transport? -multiple choices reply-(optional)

Please specify which other barriers -open reply-(optional)

Standards to allow and enable roaming for a EV user so that the user can use different Electricity Mobility Operators charging posts. Standards for the IT systems to form common API e.g. between Electricity Mobility Operators IT system and value added services, and allow roaming.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

As bioenergy is being traded to a larger extent worldwide, harmonised sustainability criteria would be needed. In Fortum's view binding sustainability criteria that apply to the origin of bioenergy would be preferred, irrespective of whether bioenergy is being used in industry, energy production or as traffic fuel. The target should be global sustainability criteria, but at least common requirements for bioenergy in the EU. For fossil fuels by definition they are not sustainable environmentally but, social and economic sustainability could be considered e.g. see better coal initiative.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added -open reply-(optional)

A clearer framework for use of the cooperation mechanisms needs to be established. As far as a European approach to RES development is concerned, Fortum considers that the use of co-operation mechanisms and progressive convergence of support schemes for RES towards a market-based design must be incentivised to ensure cost-effectiveness and to establish a European level playing field. The main problem is political, what is needed is to provide the possibility for companies to use cooperation mechanisms without the interference of governments. Moreover, there is a lack of workable framework from joint support schemes. A regional approach makes sense, and nearby geographical regions should take advantage of this in order to ensure maximum economic efficiency. In this regard, the common certificate scheme between Norway and Sweden can be considered as a promising development.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Instruments promoting the import of renewable electricity from third countries to meet European RES/decarbonisation targets exist, but can be further exploited. Article 9 of the RES Directive already offers the opportunity to meet RES targets via imported electricity from third countries, and should quickly be transposed into national law by EU Member States. However, cooperation mechanisms within the EU should not be forgotten: they are even more important and should be used without delay.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Grid integration of RES is one of the major challenges regarding RES technology roll-out. It is important to make sure that other EU policies adequately support this objective. EU Horizon 2020 should provide financial support for large-scale demonstrations and pilot projects as well as other measures to speed up commercialisation of RES technologies. The EU Infrastructure instrument should support RES integration by speeding up transmission and distribution infrastructure building. RES technologies can best be supported through efficient R&D and innovation programmes and measures, not through generation subsidies. The overall target is to phase out RES generation subsidies after 2020 and these technologies should be competitive by then. Public support for RDI is required and justified also after 2020.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

With a cost-efficiency consideration, priority funding should be granted to those technologies which are on the edge of competitiveness as opposed to technologies which have still a long way to go to go down the cost curve and reach competitiveness. This would intend to avoid stranded assets.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of

industry to engage in public private partnerships?

-open reply-(optional)

SET Plan provides a good framework for low-carbon energy technology development. Industrial initiatives also cover the most important technologies. However, there should be enough flexibility in order to make it possible to include completely new technologies in the scope if need be.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

SET Plan provides a good framework for low-carbon energy technology development. Industrial initiatives also cover the most important technologies. However, there should be enough flexibility in order to make it possible to include completely new technologies in the scope if need be.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

No. There are always risks associated in technology development and therefore it is not useful to established strict deadlines. However, technology roadmaps which are drawn in cooperation with industry, research organisations, public sector etc. can be useful in showing the way towards commonly agreed goals. It is important that research financing institutions also commit themselves to these roadmaps.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

World Wide Fund for Nature (WWF)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need

to address other environmental, security of supply or technological development benefits) -open reply-(optional)

WWF judges that the binding EU target for renewable energy is a success. The consultation document states, “renewable energy will grow at a faster pace... and the overall share of renewable energy in the EU will exceed the 20% target in 2020.” To capitalise on this progress, with 2030 only one investment cycle away, the EU should make a firm commitment to the medium and long-term development of renewables. A post-2020 target for renewables is needed, and would be most effective if complemented by a package of related energy and climate targets. WWF’s Energy Report proves that the world can be fully powered by renewables by 2050. Any EU target should be in line with this long-term international goal. The existing work on 2030 targets should be given full consideration. For example, EREC advocates a binding EU target of at least 45% renewable energy in the mix by 2030. WWF UK is advocating a national target of at least 60% of renewable electricity by 2030. To address significant concerns about the sustainability of particular forms of bioenergy, and to take account of the potential of other renewable technologies, the EU should assess the potential for sectoral targets, and targets to differentiate between carbon and non-carbon based renewable power sources. Such an approach would give MS’s the flexibility to prioritise the renewable technologies with greatest potential in their country, while also providing for a greater degree of control over the use of bioenergy.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

The EU ETS is failing to drive investment in renewable energy because of the low cost of carbon due to oversupply of allowances. WWF supports amendments that will strengthen the EU ETS by cancelling at least 1.4bn tonnes of CO<sub>2</sub>e allowances in the third trading period and to increase the linear reduction of available allowances to at least 2.5% a year, as opposed to the current 1.74%. EU targets on energy efficiency should be legally binding to reduce energy demand overall, and to make it easier for renewables to meet 100% of EU energy demand. Greater support is needed for to improve large-scale electricity storage in order to answer concerns about intermittent power supply from renewables. Co-ordinated national and international power grid policies are needed to reduce the cost of integrating renewables into the system and to facilitate maximum deployment. Measures are needed to support Member States in the development of renewables-based decentralised energy generation, including through the integration of small scale renewables into the built environment. WWF’s Climate Solver programme (<http://www.climatesolver.org/>) continues to show the great potential, through transformative technologies that are being developed today, to reduce global carbon dioxide emissions. It is vital that barriers to the development and wide-spread use of these technologies, such as financing and market access, are addressed by public and private investors, including the EU.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes - Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)  
-open reply-(optional)

Please explain how it could be achieved for third countries -open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

WWF judges that renewables support schemes have not negatively effected the energy market. However, historic fossil fuel and nuclear subsidies, the failure to internalise external costs and market dominance have made market access much harder for renewables. The Earth Policy Institute recently released data which shows that: "Worldwide, direct fossil fuel subsidies added up to roughly \$500 billion in 2010. Of this, supports on the production side totaled some \$100 billion. Supports for consumption exceeded \$400 billion... All together, governments are shelling out nearly \$1.4 billion per day to further destabilize the earth's climate."  
([www.earth-policy.org/data\\_highlights/2011/highlights24](http://www.earth-policy.org/data_highlights/2011/highlights24)) In Jan 2011 the European Commission found that, according to the most recent data available (2004), fossil fuel subsidies for the EU 15 were €21.7bn.  
([eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0031:FIN:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0031:FIN:EN:PDF)). In September 2009, G20 Leaders agreed to rationalise and phase out, over the medium term, inefficient fossil-fuel subsidies. However, the latest OECD monitoring report (<http://www.oecd.org/dataoecd/40/35/48805150.pdf>) shows that EU OECD members budgeted over £25bn Euros worth of subsidies on fossil fuel in 2010. Support for fossil fuels is clearly distorting energy markets, and should be ended before any reduction in support for renewables (which is required for nascent renewable technologies to gain access to this distorted market) is considered.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and

Length and complexity of administrative procedures relating to

training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	authorisation/certification/licensing - Lack of credible and certified training and qualification - Other (please specify)
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

In addition to the impediments identified above, WWF believes that a lack of knowledge sharing on environmental impacts (both regionally and internationally) may also constitute a barrier to the expansion of renewable energy. It is clearly important that environmental impact assessments are undertaken for individual renewable energy constructions. However, it is also apparent that knowledge sharing of more generic studies, such as those on the impact on bird life, is often not happening despite the fact that it could save costs and lead time for obtaining planning permits. Specific examples of the impediments created by the length and complexity of administrative procedures relating to the authorisation/certification/licensing of renewable energy projects can be found in the report from the European Wind Energy Association (Wind Barriers; Administrative and grid access barriers to wind power July 2010), which found that: "The EU average for the administrative lead time of an onshore wind energy project is 42 months... The administrative lead time differs significantly for each country and each project: from 2 to 154 months. Some developers in Greece, Portugal and Spain have experienced lead times of 100 months or longer for their building permit applications."

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

WWF believes that if all currently relevant EU legislation, including the 2009 Renewable Energy Directive, the third Internal Energy Market package (ACER Regulation 713/2009, Cross-border Electricity Regulation 714/2009, Gas Transmission Regulation 715/2009, Electricity Directive 2009/72, and Gas Directive 2009/72 - OJ 2009 L211) and the proposed infrastructure package, are fully implemented, the issues listed above should have been minimised relative to the amount of renewable energy that is expected in the supply mix by 2020. Depending on what is achieved by 2020, additional efforts may be required after the end of the decade. It will be vital, for example, that as the ambition on the proportion of renewable power in the mix is increased post-2020, the relevant national rules and framework conditions are adapted to ensure that the system is structured in a way which will allow it to fulfill that increased ambition and to provide for an energy supply mix which is dominated by renewable power. In order to ensure that the impact of these obstacles is minimised, the appropriate system changes should be made before this additional renewable power is added to the mix.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
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D.2.1. Please explain why -open reply-(optional)

WWF believes that, in order to inspire maximum investor confidence in the ability of relatively immature renewable energy technologies to meet the majority of the EU's energy demand post-2020, the grid, and the rules which govern it, have to be developed so as to ensure they meet the needs of renewable suppliers, and that those suppliers have a guaranteed and priority access to the market, in preference to non-renewable energy suppliers.

D.3. With regard to system integration of wind	Increase availability of demand response (smart grids ...) -
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and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)
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Please specify which other measures -open reply-(optional)

Recent research has shown that, beyond 2020, greater cross-border co-operation between EU Member States could reduce the investments required in generation assets by about 20% between 2020 and 2030. This should, therefore, be facilitated at EU level. It should also be noted that the same research (The European Climate Foundation's Power Perspectives 2030 report) argues that 10% of electricity demand in the EU in 2030 could be shiftable within a day, and that this could reduce grid investments by 10% by 2030, reduce back-up generation capacity by 35% by the same date, and reduce the volatility of power prices.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Producers of renewable energy should continue to be treated separately (no exposure to conventional market)
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E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Electricity markets should evolve into energy services markets, earning revenues from more than just electricity
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of capacity (installers, other)
---	--

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The extent to which thermal demands are reduced through energy efficiency measures is clearly relevant as it affects the amount of renewable heat required, and, therefore, the technical suitability of dwellings for renewable heating technologies. Preliminary analysis for WWF Scotland, which examined future renewable heating technologies, emphasised the importance of securing improvements in the seasonal performance factor for air source heat pumps (from 2.5 in 2010 rising to 3.5 in 2030). The research therefore highlighted the need for a significant scaling up of the rate at which homes are insulated.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

The focus for increasing the proportion of renewable energy in transport should be through electrification of vehicles, powered by renewable electricity. Also the electrification of rail and moreover efforts to supply rail systems with a higher share of renewable electricity can contribute considerably to raising the share of renewable in transport also well before 2030. Within sectors where electrification this is not possible, efforts should be made to use sustainable biofuels. However, for bio-fuels it should be pointed out that barriers also include limits on the availability of sustainably produced bio-fuels.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail

G.2.1. Please explain your answer -open reply-(optional)

WWF believes that passenger road and rail should be the main focus for increasing the share of renewable energy in transport, as they are most suited to electrification, and can be powered by the most sustainable energy sources. In order to move away from fuelling cars with fossil fuels and/or replacing them with bio-fuels, new technologies need to be strongly encouraged before 2030. Bio-fuels should be used only in those sectors where vehicles have limited scope for electrification - aviation, shipping and road freight. A transition from the current transport systems towards that 2050 goal will require significant effort to electrify road transport by 2030, while at the same time, biofuel sources should be redirected into the sectors mentioned. However, the WWF 100% renewables scenario makes clear that achieving this sustainably requires reducing energy consumption, increasing energy efficiency across all economic sectors, addressing land use concerns by strongly prioritising bio-fuels from residues, waste, and potentially algae, electrifying passenger cars and rail, lowering aviation growth through increased use of alternatives to flying such as rail and video-conferencing, lowering meat consumption to free up land for energy crops, improving agricultural productivity, good governance to ensure sustainability, and making bio-fuels certified as having the lowest possible environmental and social impacts commercially available on a large scale at an economic price.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

H.1.1. Please explain -open reply-(optional)

Renewable energy should be produced within the framework of sustainability as only this will ensure long term acceptance. While the RED did place rules on bio-fuels, WWF considers sustainability criteria under the RED incomplete, as legislation failed to establish legally binding social criteria or to address the sustainability of production. Also, solid biomass used to produce heat and electricity does not have to comply. While some MSs have introduced measures, this is not enough to prevent the degradation of ecosystems or to realise benefits for the climate. Informed judgements on sustainability and social impacts can only be made once the 4 questions are answered: Will the EU impose legally binding sustainability criteria on biomass used for electricity, heating and cooling including transparent accounting for GHG emissions? Will impacts on water, soil and air be addressed under the RED? Will natural and non-natural highly biodiverse grassland be defined and transposed into legislation under the RED? How effective is the RED to ensure sustainability? As it is a limited resource, the focus post-2020 must be on maximising the efficiency with which biomass is used. Also, the social impacts of biomass production and use must be addressed. Only the best performing biomass (judged by comprehensive criteria within a clear legal framework) should be promoted within Europe. Equally, every effort must be made to minimise the environmental impact of fossil fuel production an

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with third countries should be encouraged and facilitated by a renewables energy strategy for 2030 which includes proposals on investment and technology sharing with a strong emphasis on the neighbouring countries.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Attracting private investment: It is vital that the 'rules of the game' are shaped by governments, private financial market actors, and other stakeholders so as to ensure that private capital can be mobilised, if necessary by leveraging public funding, at the level needed to finance the transition to a sustainable future by 2050.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

It is important that explicit or hidden subsidies for fossil fuels are ended and, as a minimum, a level economic and administrative playing field is set so that renewable energy has equal, if not preferential, access to the market. Ending subsidies to fossil fuels would mean that lower levels of support are required for nascent renewable energy technologies to compete. The EU should move forward quickly to deliver a comprehensive methodology on greenhouse gas accounting for biomass use in energy generation, in order to ensure the sustainable use of biomass in the energy sector.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

The full potential of energy demand reduction and energy efficiency is still far from realized despite the advantages in terms of, for example, cost reduction, increased competitiveness, and job creation. Advanced systems for logistics, transportation, city planning, and smart/flexible working should be maximised so as to reduce people's need to travel. The use of new materials which generate less emissions and ecosystem impact throughout their entire life cycles should also be accelerated.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Not successful

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

While the EU has shown a high level of activity, which has yielded some results, this progress has not been of the magnitude or character required by the scale of the challenges we're facing. Furthermore, in a number of areas it appears as though these activities have been initiated and driven by a desire to tackle problems other than the climate change crisis (e.g. protecting European business, primarily generating/keeping jobs, maximizing export revenues etc). This has meant that EU action ostensibly aimed at protecting the environment, has in fact been sub-optimized and misplaced. However, WWF believes that social and economic benefits would still be achieved if the primary objective was the need to tackle climate change. For example, in early technology development, the capacity of the technology to reduce our impact on the environment should be the driving factor. This may mean that in the early stages of development, a given technology may need more time and resources in order to prove its potential, with it only being feasible to set hard targets at later stages of development or deployment.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

David Gillett - IFIEC Europe - ifieceurope@ifieceurope.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply- (optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, an indicative and non-legally binding target at EU level is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

As the renewables' market share is constantly increasing, there is far less need for binding targets in the future, but a great need for greater discipline to reduce costly national support measures and fully to integrate renewable energies in the market. Furthermore, the binding targets for renewables have introduced conflicts with other EU policies and instruments, especially, the internal market and the ETS, which has also increased costs and the burden on Energy Intensive Industry (EII). An indicative non-legally binding EU-wide RES target is only one of the elements needed to incentivise progress toward the EU's CO<sub>2</sub> reduction (GHG targets). Cost efficiency and security of supply, also, must be key considerations determining the best mix of renewable heat, renewable electricity and energy efficiency measures. Both, energy efficiency measures and RES actions, must be closely monitored and mutually adjusted, in the global context of CO<sub>2</sub>-reduction, to ensure cost-efficiency.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

One of the main requirements of renewables beyond 2020 is reaching competitive costs of these technologies. Where competitive electricity prizes need to be measured by comparing renewables' production costs/subsidies to production cost of other generation options, respectively wholesale prices. Comparing renewables's (e.g. small-scale solar) subsidies to retail electricity prices leads to wrong conclusions since retail tariffs contain elements such as grid fees and taxes which are not part of the Renewables subsidy. Renewables policy must ensure European industry remains internationally competitive. The effective integration of renewables into the energy system will require further innovation, better ability to store energy and flexibility, to cope with the biggest challenges of RES: intermittence and high cost. Therefore, appropriate frameworks for funding of R&D renewables, storage and smart grids are a key policy objective to facilitate the integration of RES in the electricity market. Also, improving the regulatory framework for grid integration is necessary, e.g. by setting incentives for consumers (households, but also big industrial loads) to participate in voluntary demand-response mechanisms. Especially, with large industrial loads, there is a huge potential for demand response which can be incentivised more easily and quicker.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

Post 2020, mature RES-technologies, which will then have received high subsidies over decades, should operate without further support in the electricity market. Other, new technologies should be supported through R&D to reduce costs until they are competitive. Support

for nearly mature technologies would be acceptable, on a limited scale, until they reach the breakthrough required to make them fully commercially competitive.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes -  
Open up national support schemes to cross-border projects -  
Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

A clear evolutionary path should be defined, incorporating incentives for the various technologies to reach competitiveness, at which time, support should end. To avoid overcompensation, support schemes should then be dynamic. Support should be limited to the gap between RES operating costs and the average market price, minimizing market distortion and limiting costs to consumers. Moreover, producers of renewable energy will need to act like any other market actor when selling their energy (i.e. making forecasts, aligning their selling strategies to market price signals ...). This will lead to true market integration of renewables and will alleviate system stability issues. The support scheme should be transparent (also with regard to indirect subsidies) and encourage optimization of technology choice, with subsidies capped by a single benchmark per technology, applied throughout the EU. It should also respect the geographical natural advantages, vis-a-vis choice of technology. Even with these provisions, to ensure global competitiveness, EII's must be exempted from associated renewables costs. Concerning natural geographical advantages, MSs should be encouraged to invest in other MSs, on a project cooperative basis.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

The current multiplicity of non-coordinated subsidy mechanisms in EU member states leads to misdirected incentives to build installations at unfavourable locations. Therefore, subsidy levels should be capped, by technology and support periods should be limited, EU-wide, based on best practices. Benchmark values therefore should determine the maximum support level per technology taking into account the optimal economic and technical locations within the EU. This will ensure cost effective technology development and reduce the overall cost for the final consumers. However, exceptions may have to be made with regard to geographical and demographical signals when substantial differences between MS exist during the transition period. Studies show a subsidy corrected for electricity price evolution is the most cost-efficient and suitable system. The level of support must be corrected for the real electricity price and technological evolution to limit subsidies to what is required to bring on the new technologies. The objective must be to phase out of the support and fully to integrate RES into the energy system, latest by 2020. As most MS have similar rules, it should not be difficult to agree on common community rules.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Support for green electricity and green heat and cooling should be based on cost efficient potentials to ensure an efficient use of the resources. Maximum subsidy levels, by technology, should be determined, on an EU-wide basis. Before introducing additional financial support for heating and cooling, there should be a careful analysis whether such support is needed at all, or whether current mechanisms are sufficient. EII must be exempted from bearing even those costs to provide a level playing field vis-a-vis competition from outside Europe.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

MSs should have the opportunity to invest in RES in other MSs on a project cooperative basis to meet their own agreed targets.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

While all support schemes are distorting, schemes providing more support than needed or non-transparent indirect support schemes are more distorting for the electricity market than others. As a result, electricity production becomes subsidy driven instead of driven by market signals. For instance, quota systems provide windfall profits for the investors of the most mature technologies (e.g. hydro, biomass and wind) and sometimes an insufficient support for more expensive technologies. Moreover when the support is given independently of the real electricity price evolution or without a clear phase out plan, the incentive to reach competitive electricity price is lost and integration of RES into the electricity market impaired. Also, as the number of support schemes that are not market oriented spread, a huge share of the electricity market will in fact become re-regulated, which contradicts the goal of a having a competitive internal electricity market. EII must be exempted from associated costs to remain internationally competitive.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

In order to achieve true market integration of renewables, they need to act like any other generator in the market (see above: B2). This means that priority access needs to be phased out over time. If some electricity production is not needed at a certain time, then there should not be a guarantee for renewables to receive support, since market price signals will show that electricity has only a low value at this time. Therefore, any special grid connection and priority access rules are not compatible with market integration of renewables. There should nevertheless exist an obligation for TSOs and DSOs to develop the network, but this should not be driven exclusively (or even mainly) by the need of renewables alone, but instead the overall needs of the market should be the basis for network development. In doing this, resulting costs which will be borne by the grid users, should be communicated transparently and in a way which makes it possible to trace which share of the costs can be attributed to grid development caused by RES and such grid development caused by other factors (e.g. increasing cross border trade).

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

In order to integrate Renewable into the network, flexibility of the system is needed. This comprises development of storage facilities as well as increased interconnections and demand flexibility. In this connection it is important not to limit the focus on smart grids; which is commonly understood as referring to household or retail customers. On the part of large industrial customers there exists substantial potential for load-shifting and demand response. It is clear that a load shift of a certain amount can be much easier achieved with few large loads. But load shifting comes at a cost for the companies. Therefore, economic incentives should be given for industrial loads to voluntarily engage in demand response-programs. To a certain extent, such incentives will come at lower costs than some other options. It is important to optimize the system, and to minimize overall costs, industrial demand response is an additional useful element which should not be neglected. In order to enable industrial consumers to offer cost efficient load shedding solutions, it is necessary to develop short term products which are compatible with industrial constraints. Segmenting the need is the best way to reduce the cost for the Community.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Price risk – producers of renewable energy should operate without any aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

See answer to question B.2 above: Producers of renewable energy should act like any other market actors, including selling their energy to the market and bearing responsibility for balancing. In implementing such a scheme, it is necessary to differentiate between technologies: Some may be more mature than others, and once a technology is mature enough, subsidies should be phased out for this technology. Forcing the producers of renewable energy to adhere to common balancing rules may increase their costs – but this can be taken into account when setting the support level. Over time, subsidies should be decreased to account for the learning curve, the efficiency improvements and cost reductions in the renewable energy generation, transmission, distribution and balancing.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Requiring producers of renewable energy to act actively on the market and to respond to price signals will automatically lead to a situation where flexibility is rewarded (i.e. by higher revenues on the market, when the RES-generator sells its power at times of high demand, using e.g. storage facilities or combinations with other technologies within a virtual power plant). Moreover, incentives on the part of grid fees could be set to incentivise any market actor (RES-generators, other generators, small and large customers) to offer their flexibility to the grid.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Prioritising the production of green electricity through support systems is a barrier for the development of green energy in heating and cooling. A consistent policy on the renewable energy mix based on cost efficient potentials of either energy efficiency, renewable electricity or renewable heat or a combination of these is therefore required to reduce the distortion between the deployment for green electricity and the use of green energy in heating and cooling.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

Innovation in storage and any other technology that reduces the impact of intermittence of RES or provides baseload, including waste heat, is highly promising for the future development of renewable energy and the integration of renewables into the market.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The key for promoting renewable energy in heating and cooling in enhancing energy efficiency lies in cost-efficient support and if necessary R&D support for re-use of waste heat.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main

barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

When applying criteria for sustainability it is of crucial importance that environmental, societal and economic aspects are brought equally into consideration. Renewable feedstock supply is for example vital to sectors like the chemical industry and pulp & paper and should as such not be solely considered in the context of electricity generation.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added -open reply-(optional)

The maximum support level and length of support period should be capped, EU-wide, taking into account the best practices. In this way technologies will develop in a cost-efficient way EU-wide, reducing the overall cost for the final consumers. This can only be achieved on the basis of EU-wide benchmarks.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Provided investments are cost-efficient and since climate is a global issue, the development of green energy production outside of Europe should be eligible to count towards compliance with European targets. However in view of security of supply, the level of development of green energy production outside Europe should be carefully evaluated.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Differentiation of investments amongst member states needs to be based on the real potentials in those MS. Also the reinforcement of the grid to facilitate offshore wind has a potential that has to be evaluated. The main goals of differentiation of investments are to reduce the overall costs of generation, transport, balancing and transmission to the final consumers.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
-single choice reply-(optional) Other measures (please specify)

Please specify which other measures -open reply-(optional)

International climate agreements will facilitate such cooperation, promoting reciprocal investments and improvement in security of supply.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Security of supply and cost effectiveness should be the priority

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Cooperation should be fostered The investments in the grid could decrease the cost of offshore wind and therefore promote the integration of renewables into the existing electricity market. Yes, based on potentials, grids could be reinforced in order to decrease the costs of RES and to enhance the integration in the electricity market.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional) Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Storage and infrastructure innovation are the key challenges of RES since they deal with the main drawbacks of renewables, namely intermittence, transport infrastructure, transmission infrastructure and balancing. The deployment of existing storage methodologies and the stimulation of R&D for innovative solutions are therefore required to provide sufficient capacity in the future to cover the backup requirements of RES.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The storage and infrastructural innovation should be developed by the stimulation of R&D and pilot projects in order to prevent the distortion of the electricity market through general support systems and excessive roll out of certain immature technologies.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

From an industrial point of view, energy efficiency is the major focus in terms of costs, legislation and competitiveness. Therefore the further promotion of re-use of waste heat by available technologies is one of the key priorities. Also in the shift from fossil to green, the research and innovation in alternative raw materials is a priority of the industry towards 2020 and 2050. Stimulation through R&D for the innovation of energy efficiency and replacement of fuels and fossil raw materials should therefore be the priority if industries approach the EU for support.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

The success of the support mechanism has resulted in a substantial volume increase, accompanied by a high cost increase for the final consumer, impacting the international competitiveness of energy intensive industries. This historical cost of support will be a burden for the next 20 years. Moreover, the support mechanisms have benefited the growth of production capacity of green technologies outside EU. A drawback of the SET Plan relates to limited measures foreseen for low carbon energy materials. Materials play a pivotal role in ensuring efficient and cost-competitive low carbon technologies as outlined in the EC Materials Roadmap Enabling Low Carbon Energy Technologies. An intensive and continuous investment in research, development and deployment of advanced materials is a prerequisite to support the successful realization of the SET Plan. As such, a pan-European sustainable energy research programme for materials is required to implement the Materials Roadmap. All public and private efforts on materials research and innovation for energy applications across Europe need to be mobilised according to a logic of joint implementation, risk and capacity sharing. If the SET Plan is based on a pillar approach, with different Roadmaps for each technology, research, development and innovation for advanced materials needs an integrated and horizontal approach. We consider the upcoming Energy Materials Industrial Initiative (EMIRI) as an effective implementation mechanism.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes, support for the development of a technology should decrease in time based on a foreseen technological evolution to ensure maximum cost efficiency. We assume that in 2020, the technologies deployed, now, will be mature and require minimum or no support.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

Paolo Falcioni, Indesit Company

-open reply-(optional)

2. Are you responding to this questionnaire on behalf of /as:

Industry

-single choice reply-(optional)

3. Please indicate your country -single choice reply-(optional)

Italy

4. How would you prefer your contribution to be published on the Commission website, if at all?

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

-single choice reply-(optional)

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>Yes, a mandatory target at EU level is appropriate</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>Binding targets have proven to be more effective in progressing towards the EU's 2020 targets. Targets should be set within a framework that looks towards long term objectives in order to plan for the remaining interim needs and to secure maximum contribution from investors and businesses. With this in mind, we believe that a high level of efficiency and renewable energy should be together as mutually reinforcing fundamentals of the EU climate and energy policy strategy.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Other (please specify)</p>
<p>Please specify which other policy elements? -open reply-(optional)</p>	
<p>To foster a better use of renewable energy through demand response mechanisms. To empower consumers making available in real time information on the amount of renewable energy available on the energy grid.</p>	
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
<p>Please specify which technologies/circumstances/markets -open reply-(optional)</p>	
<p>Smart-grids enabled technologies should be promoted and facilitation of demand response programmes ensured. Demand response could be a market driver able to indirectly finance renewable energy. To create a sufficiently large installed base interacting with the smart meter and the grid, incentives should be provided for the adoption of smart appliances.</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>Smart-grids enabled technologies should be promoted and facilitation of demand response programmes ensured. Demand response could be a market driver able to indirectly finance renewable energy.</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

rules favouring the deployment and use of demand response, such as time of use tariffing, forecast of aggregated power production and consumption, forecast of green energy production.

D.2.1. Please explain why -open reply-(optional)

There is a virtuous relationship between greener electricity generation and demand response, for example through the use of smart appliances. Smart appliances that by default shift consumption out of peak periods, or which, through information, encourage consumers

to do so, increase the likelihood that energy sales companies can maximize the use of their greenest energy sources and minimize the energy waste associated with a disproportionate amount of demand occurring during peak periods and insufficient demand occurring when renewable energy is available.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Other (please specify)

Please specify which other measures -open reply-(optional)

Demand response should be considered as an alternative solution to electricity storage and increased interconnections. Market driven instruments should be identified to select best solutions.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Smart meters able to apply a tariff according to time-of-use profile to reward consumers for their environmentally- friendly choices and the benefits they provide to the system.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable

energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added  
-open reply-(optional)

As investments on the smart grid are being made, it should be ensured that signals from the Grid to the household offer full interoperability within EU countries. This is a prerequisite, since only an EU wide market can justify the investments needed for smart devices manufacturers.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the

rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Swedish Forest Industries Federation, Tomas Thuresson  
(tomas.thuresson@forestindustries.se)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-

Sweden

(optional)	
<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>No, targets for renewable energy sources are unnecessary</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>When the milestones from the Commission 2050 roadmap to a low carbon economy and the 2050 Energy Roadmap trajectories would be translated into EU Economy wide CO2 targets, the choice comes forward between markets and measures to secure these targets to be met. The more stringent these overall CO2 targets become, the more flexibility the member states need to choose between the different options. In this respect mandatory renewable targets will not lead to the most cost efficient solutions and should not be put in place. Targets must not lead to support for inefficient technologies or installations. Any form of targets leading to demand-side measures need to be accompanied by measures to ensure the supply. Particularly for bio-energy, the demand-side measures must be balanced by measures ensuring the supply of raw materials. We fully support the transformation of the EU energy system to a low-carbon, competitive and stable energy system. In our view climate change and security of supply are the most important issues to consider in European Energy Policy. However, in our view targets should be set reflecting the primary priority of the overall energy policy. Setting a new binding target on renewable energy would therefore not be relevant. Thus, the target for climate mitigation is more relevant and is also sufficient in the longer term. This will provide companies and business with the stability they need for investments.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>
<p>Please specify which other policy elements? -open reply-(optional)</p>	
<p>We believe that Enhanced focus on R&amp;D to bring down the costs of renewables technologies should be stimulated already on the way to achieve the 2020 goals on RES and further actions are to be taken to develop policy tools and mechanisms for the stimulations for RES after 2020. In this view further actions are to be taken in the field of ensuring the sustainability and scalability of RES. support to research and development in the area of energy and resource efficiency should be given. In the case of bioenergy, the most important tool is the common EU biomass supply policy. Only the common biomass supply policy can secure investment certainty and create a competitiveness of the European industry relying on the biomass supply. Targetsetting alone leads only to demand-side measures that can significantly distort the supply.</p>	
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
<p>Please specify which technologies/circumstances/markets -open reply-(optional)</p>	
<p>Renewable energy has received support for some time now, but like all new technologies, they should be able to carry their own costs in the long run. Thus, financial support should not be mandatory or EU-harmonized after 2020. Given the principle of subsidiarity Member States should have the right to decide what energy solutions are most beneficial to their countries, the most cost-effective or favorable in other aspects. Thus, Member States should have the flexibility and the right to choose whether to promote renewables or not. Support</p>	

schemes for renewables should not be promoted or prohibited by the EU Commission, and the member states should be able to decide how to achieve their target for climate mitigation.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Our view on general support schemes is that they are preferably avoided after 2020, as renewables should be able to carry their own costs.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Support schemes are and can be country specific. Extremely diverging support levels should however be avoided.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

No comment

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The problem would be treating electricity from different production sources differently. Electricity from renewable energy sources should be submitted to the same rules, regulations and obligations as any other electricity production. However, in many cases RES are often cut of as the grid is not able to take or transport the electricity in sufficient quantity. In order to avoid those obstacles after 2020 grid connections need to be strengthened by additional lines; otherwise the production of RES will be curtailed even more. That is infrastructural investments are necessary.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

There is no need for priority or guaranteed access. The variable cost of the renewable is often very low and the producers will always be able to sell on the market. There is also no need for priority dispatch and obligation on TSO to counteract curtailment, this issue should be handled by the market.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

The value of flexibility to produce and consume electricity is increasing. There will be incentives for consumers to consume more when fundamentals are good (low prices) and less when fundamentals are less favorable (high prices). Increased share of renewable power production will lead to more weather driven markets. An optimized back-up capacity is desirable for consumers to avoid extreme situations, but in the end of the day this is an economical optimization due to the fact that back-up capacity require investments that someone (consumers) needs to pay for. Investments in grid infrastructure is crucial if there is an intention to keep and develop well-functioning power markets across EU. The question mark is who is going to pay the bill according to above? Today all grid costs are paid by the consumers. A better solution would be to establish a regime that grid costs are paid equally (50/50) between producers and consumers since both parties are using the grids. This solution would also help to finance necessary investments in grid capacity.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

One of the main barriers is that there will be a greater competition for biomass. It is of greatest importance that measures are taken to promote sustainable forestry and increased growth. There is also a lack of infrastructure when it comes to using the produced heat/cooling. If there is no infrastructure the overall efficiency in bio-based CHP will be very low and not acceptable.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

There is a strong interaction: Efficiency criteria must ensure that biomass is used in a resource efficient way. This will make available additional volumes of biomass for use in heating and cooling. On the other hand, energy efficiency in the energy consumption is also reducing the overall needs.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail

G.2.1. Please explain your answer -open reply-(optional)

Electricity based railroad transports should be able to develop.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

The sustainability criteria in RED are as we see it primarily related to and developed for sustainability of biofuels from agriculture and therefore not suited properly to sustainability in forestry. Rather than addressing important environmental sustainability concerns by adaptations of the COM (2010)11 report, we hope that the Commission instead focus its efforts on the implementation of forest-related

legislation such as e.g. the Timber Regulation and global processes such as EU partnerships on forest law enforcement, governance and trade (EU FLEGT VPA) with timber exporting countries. Also, the agreements in Nagoya and Durban holds significant progress in third countries with respect to protection of carbon stocks, biodiversity and ecosystem services in forests. If additional measures are necessary this should be handled through relevant forest processes and environmental legislation and cover forestry and the use of forest products as a whole, not only the smaller fraction used for energy purposes. Additionally there should be criteria that refer to energy and resource efficiency and to support of the cascading use of biomass, i.e. using the biomass where it creates most jobs and added value first, before using it as a source of energy at the end-of-life.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>The renewable energy solutions are not only within the EU. Cooperation with e.g. Russia will in the long run be important and efficient.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>The security of supply and energy cooperation must include a biomass supply policy, including from within the EU and from partners outside the EU.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	

## J. TECHNOLOGY DEVELOPMENT

<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of</p>	<p>Other (please specify)</p>
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renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

Technology performance in general can still be further improved, resulting in good cost competitiveness and lesser need for support. The main obstacles for further deployment of bio-energy, especially biofuels and bio liquids will be the price for biomass. In that respect two aspects will play a major role. For further deployment and development in these areas EU will have to put policy measures in place to guarantee enough biomass, good quality biomass at affordable prices to keep EU PPI competitive. At the same time we need to secure cascading use of biomass including recycled cycles in industrial processes (collection, mobilisation and supply of the raw material).

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The main obstacles for further deployment of bio-energy, especially biofuels and bio liquids will be the price for biomass. In that respect two aspects will play a major role. For further deployment and development in these areas EU will have to put policy measures in place to guarantee enough biomass, good quality biomass at affordable prices to keep EU PPI competitive. At the same time we need to secure cascading use of biomass including recycled cycles in industrial processes (collection, mobilisation and supply of the raw material). An additional possibility are policies to promote short rotation forests or other highly productive biomass sources.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Biomass and black liquor gasification technologies, aiming at further increasing efficient use of biomass should be supported to come to their potential. Waste water treatment systems can be further optimised to provide biogas replacing natural gas. Furthermore, the efficiency of incineration systems for residues and wastes can further be improved.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

In the area of biomass we do not consider measures as being very successful especially in the area of the given subsidies and support for burning biomass in power plants with very low overall efficiency not considering the basic principles of Resource efficiency and cascading use of biomass. Technology policies should focus on providing much more efficient solutions for turning biomass into energy.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

More important would be to decide about assistance based on thoroughly evaluated effects on the whole society not just on energy production. This should be closely linked to the evaluation of the impacts on industries depending on the same raw material. In addition it is of utmost importance to in evaluations include the substitution effect that e.g. the wood based industry can provide.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes

GDF SUEZ, alice.monnet@gdfsuez.com

for use only if we need clarification about your responses. -open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	France
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, an indicative and non-legally binding target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	<p>A long-term policy on RES in electricity must be built on a carbon price as a key driver for a cost-effective decarbonisation of our energy system i.e. the EU objective to reduce GHG emissions by 80-95% by 2050 compared to 1990 levels should be the main driver from 2020 onwards. As a consequence, it is of utmost importance that the EU adopts a long term carbon strategy, which requires for the EU-ETS in particular to offer certainty for the investors that: i) the system will continue beyond 2020 with adequate policies ensuring an appropriate CO2 price signal for investments in RES ii) the system will not be subject to unexpected changes in a given trading period. With an ambitious CO2 emissions reduction target, a specific RES target should in principle not be necessary after 2020. If the EU decides nevertheless to set a RES target at EU level post 2020: It should be done after the 'Review Clause' planned in 2014 as foreseen in the Directive 2009/28/EC; and It is of high importance that i) such an EU target is based on a realistic assessment of RES potentials in the EU and in neighboring countries; ii) a market model is implemented which enables proper remuneration of investments iii) conflicts between different EU objectives (energy efficiency, CO2 emissions reduction and RES penetration) are reduced to a minimum level iv) the EU, national governments and local authorities address the crucial issue of public acceptance.</p>
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Successful growth in electricity-RES will depend on a well-functioning and integrated energy market i.e. obstacles for investments in renewables and grid infrastructure should be removed as grid infrastructure (both the transport and distribution grids) will require huge investments; flexibility on both the demand and supply side should be promoted through a consistent policy framework –back up generation and storage, demand side participation, market integration-; and interconnections should be strengthened. Issue of public

acceptance will have to be addressed. Note also that transparency on the information on the impact of the RES costs development on final customers' bills (including on the grid tariffs) would be needed. GDF SUEZ also highlights that one key factor for investor is the long-term predictability and stability of the regulatory framework. In the medium term, carbon and energy price levels enable technologies should compete on a level-playing field. RES electricity generators should be incentivized progressively to enter the wholesale market with the objective to become competitive without subsidies: for those RES technologies which after 2020 will still need to rely on financial supports and strong R&D, support systems should be maintained with a link to market signals, subsidies being monitored with the evolution of LCOE of the given technology. At the same time, a more coordinated and market compliant support systems approach should be put in place.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

It is important that, in the medium term, carbon price levels and energy costs (and energy price levels in particular for mature technologies) enable technologies to compete on a level-playing field. It is thus necessary that electricity-RES generators are incentivized progressively to enter the wholesale market with the objective to become competitive without subsidies: for those RES technologies which after 2020 will still need to rely on financial supports and strong R&D, support systems should be maintained, subsidies being monitored with the evolution of LCOE of the given technology. At the same time, a more coordinated and market compliant support systems approach should be put in place which incentivized the use of the most cost efficient technologies at the most appropriate locations across Europe, whereby investors will also take account local grid constraints and wholesale market price signals. Note: level of RES maturity mainly depends on the following factors: i) reliability of the RES technology; ii) costs for the environment iii) costs of the technology with different learning rates; and iv) penetration level of specific RES technology in the market (when substantial shares still need import support schemes out of the market prices it would indicate that the technology remains immature to get in the market).

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Those RES for which the investment signal by the carbon price will still be insufficient should continue to receive support which should be made more market oriented in a way that gives an incentive to react to market signals while providing an appropriate return on investment to RES-operator. At the same time, the EU should promote a coordinated approach on support schemes and cross-border cooperation projects. This would enable RES projects to be built where it is the most justified: in the short term, cooperation mechanisms should be a key measure to enable this coordination between Member States. In the medium/long term, the EU should adopt a more cost-efficient market-based and European approach for those technologies that will still rely on support in order to develop projects at least cost on the basis of RES resources, also taking account the local grid and market constraints. Note: regarding this proposed European approach, GDF SUEZ suggests that the EU institutions should undertake studies with stakeholders on the appropriateness to launch tenders (including at supranational level, e.g. on the CWE market) for new capacities to be built. The scheme could provide for upfront investment-related capacity fees (instead of output-related support).

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

See our answer to question B.2.

<p>B.3. Do you think it would be useful to develop common approaches as regards Member</p>	<p>N/A</p>
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States' financial support for renewables? -single choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
See our answer to question B.2.	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
One main difference between the electricity sector and the heating and cooling and transport sectors is that investments in the latter are not driven in the same way by the carbon price as most installations of these sectors are outside the EU ETS scheme. In the context of the revision of the Energy Taxation Directive, a carbon tax at EU level could be envisaged for sectors not covered by the EU ETS: GDF SUEZ recalls that it is important that non mature technologies or installations that recover waste energies can be totally or partially exempted from both the energy and carbon tax components.	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)	
-open reply-(optional)	
See our answer to question B.2.	
Please explain how it could be achieved for third countries -open reply-(optional)	
See our answer to question B.2.	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
In general, the main risk of an investment in electricity generation assets is that the operation of these assets does not generate enough revenues to cover the related investment and operational costs and provide for an appropriate return on investment. The main competitive distortion between RES and other generators is that in some Member States RES are not at all or only to a limited extent exposed to this risk. In practice the risk exposure depends much on the details of a given support scheme including the level of support, the period over which support is granted or the relation of the support scheme with market indications. While RES support schemes lead to competitive distortions between RES generators and other generators, significant differences in the regulatory framework throughout Europe moreover lead to competitive distortions between generators in different countries. Moreover, the support mechanisms should not prevent a facility from choosing the best technology depending on the local context i.e. as far as possible there should not be distortion between the different RES technologies due to different support mechanisms.	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Other (please specify)

provisions of the Directive? -multiple choices reply-

(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Lack of visibility and legal framework uncertainties such as retroactive changes are a serious impediment to further growth of renewables. In other words, successful growth in RES largely depends on a clear and predictable legal framework for new installations and guarantees that conditions for existing installations will not change retroactively. There should also be a high level of investment security during the project development phase, at least starting from the time of financial closure or as soon as the permit is granted (in some countries, RES generators only have certainty about the level of support at the moment that the installations is taken into operation). Moreover, the ability to address the critical issue of i) public acceptance is essential (through awareness and information campaigns at all levels, and more efficient permitting procedures) as well as ii) current heterogeneity of actors' understanding of current regulations (local authorities, NGOs, operators, public). If the EU decides to strengthen rules in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other, it is very important however that it is done in close cooperation with stakeholders (local authorities, public, energy operators).

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

GDF SUEZ calls for equal conditions for all power generators irrespective of the generation technology when it comes to electricity grid connection: grid operators should in principle be obliged to connect all new capacity and reinforce the grid in due time if necessary in order to ensure system security and security of supply. If grid investment is delayed, market-based congestion management should be used with appropriate remuneration for operators participating in the congestion management. Equal conditions for RES and other generators should also apply regarding the curtailment regime and balancing responsibilities taking into account technical difficulties. Note: GDF SUEZ recalls that cost-sharing rules for cross-border grid infrastructure between different Member States is an issue that the EU should consider. The EU could e.g. develop an harmonized methodology to evaluate and allocate the costs and benefits and play the role of an arbitrator when needed projects are blocked due to lack of consensus between Member States.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

GDF SUEZ calls for a legal obligation and appropriate incentive scheme for electricity TSOs/DSOs to connect all new generation installations to their grid and to proactively and timely invest in grid capacity to avoid congestion. In a liberalized market, the dispatch of power plants is primarily done by generators themselves according to price signals on wholesale markets, ancillary services markets, etc.. Since most RES have very low variable cost, they are in merit on the wholesale market most of the time. Priority dispatch is in principle not necessary as most RES have anyhow priority in the merit order. In case of grid congestion, market-based congestion management should be applied which can include among other options the curtailment of installations provided they receive an adequate compensation.

D.3. With regard to system integration of wind

Increase flexible back-up capacity (capacity payments ...) -

and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

Short term flexibility and reserve is needed mainly to balance electricity-RES forecast errors and unexpected demand volatility. This issue can preferably be addressed by cross-border integration of day-ahead and intraday markets and by setting gate-closure as close as possible to real-time. Imbalances that persist at real-time should be addressed via ancillary services markets (frequency control, etc.). These markets should be integrated with neighboring countries and opened to further participants including storage facilities and the demand-side as well as RES generators. Some RES operators are technically able to offer ancillary services already today but this must be supported by an adequate design of ancillary services markets. Longer-term flexibility and reserve is needed to cover periods when electricity-RES are not available because the wind is not blowing, sun is not shining, etc. This has to be addressed by investment in flexible generation capacity (including not only flexible power plants but also large storage facilities) as well as investment in grid infrastructure and interconnectors. The current wholesale market design (energy-only markets) does however not provide enough incentive to invest in flexible back-up capacities. Note: a capacity remuneration mechanism should therefore be examined by the Commission with relevant stakeholders.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

On the 'price risk': see our answer to D.1. and D.2. Note: RES should be commercialized on wholesale market on economic and environmental grounds e.g. compulsory sale of RES on the market should however leave room for self-consumption and BtoB agreements, or direct sales to industrial clients. On the 'balancing risk': it is advisable that the same rules apply to all operators, but taking into account technical difficulties, and that the grouping of variable generation with other sources in the same portfolio is encouraged, so that the burden (residual imbalance) on grid operators is minimized: RES operators should be responsible for forecasting, scheduling and balancing their production ahead of real-time, taking into account technical difficulties. A specific balancing regime for RES is not necessary as the financial risk of an imbalance is limited since balancing prices charged by TSOs reflect more or less intraday prices and do not include major penalties any more. Moreover the quality of short-term forecasts has improved and balancing needs can be covered via intraday markets which are become rather liquid. A balancing obligation for RES operators would not necessarily mean that each small RES generator has to act on the market and balance its own output. Instead they can enter into a contract with other Balance Responsible Parties or larger generators with complementary generation assets (e.g. pumped hydro).

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Flexibility is a.o. obtained by some additional backup capacities and demand side management that may not be naturally rewarded in the current energy market organization. Therefore some mechanism may become necessary to cope with this issue. Flexibility and demand side management should be rewarded whatever the source of energy and the technology are (DSM, storage), so that necessary investments are done. However, one should check that it is not rewarded twice and that cross-border interconnections are taken into account. Storage operators should benefit from appropriate and non discriminatory regulatory treatment. Note that GDF SUEZ recommends to avoid the multiplication of different specific market mechanisms aiming at answering similar issues for different technologies, but instead favor some well thought single market model covering at once all the issues related to the security of supply and RES penetration. See also our answer to question D.3.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single

choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Other (please specify)

Please specify which other barriers -open reply-(optional)

Financial supports will still be needed for the deployment of non mature RES-H&C technologies. Furthermore, GDF SUEZ highlights that on top of current regulations such as Building Regulations which provide specific measures for products and technologies, an adequate encouragement for optimum solutions should also be designed through encouraging a whole-system approach (for districts or even cities). In this perspective, i) district heating and cooling, biomethane distribution through existing gas distribution network, energy from waste, heat recovery from wastewater network and plants or distributed electricity production should be promoted; ii) the EU could propose good practices in terms a.o. of decision making. GDF SUEZ highlights that one key factor for operator to invest in RES-H&C is the long-term predictability of the legal framework.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

Biomass, geothermal energy, solar thermal energy, efficient electricity or gas devices such as heat pumps under certain conditions, as well as local resources such as heat recovered from incinerators, industrial processes or wastewater treatment, and biomethane distribution through existing gas distribution network are promising RES-H&C.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

There should be established a priority order in view of favoring firstly, reduction of consumption of heat (energy efficiency), secondly, recycling of waste heat, and finally, replace by heat from renewables (or opt for high efficient conventional technology when it is not feasible). As a consequence, recovered heat/waste heat should benefit from support schemes comparable to those applicable to renewable heat.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Other (please specify)

Please specify which other barriers -open reply-(optional)

GDF SUEZ highlights that: Existing technologies should be improved: for instance, Natural Gas Vehicles (NGV) engines should be optimized to reap maximum benefits from the intrinsic performances of very promising and performing existing fuels such as CNG, biomethane or LNG: the development of appropriate post-treatment systems & catalyst, engines' downsizing, development of dual-fuel engines, etc. should be supported. Electric batteries and storage should also be improved. Complementarities and synergies between alternative fuels such as CNG, biomethane, etc. and electric vehicles (EVs) should also be helped: for instance development of range-extendors, for EVs, powered by these alternative fuels (i.e. hybrid series vehicles powered by alternative fuels such as CNG, biomethane, etc.). New technologies should also be deployed: e.g. deployment of sustainable urban development through technologies improving data processing to optimize multimodal mobility which requires in particular to accelerate the deployment of the necessary infrastructures (gas stations, EVs charging equipment, etc), waste-derived fuels for vehicles.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

GDF SUEZ underlines the need for a stable framework and for objective and transparent criteria and thus calls for an EU-wide harmonized sustainability criteria scheme for gaseous, solid and liquid biomass (both indigenous and imported) that shall be: - Uniform: to avoid inefficiencies, to decrease costs and to remove barriers to biomass trade towards Europe but also within the EU; - Focused on the most critical market segment i.e. only medium/large installations should be covered (an appropriate threshold should be proposed); - Elaborated on the same basis as the criteria laid out in the RES Directive 2009/28/EC concerning biofuels and bioliquids because solid and liquid biomass will progressively be all based on the same (solid) raw material, agricultural and forestry resources; - Designed taking into account the widely different environment and sustainable issues in different climatic zones; - Pragmatic to ensure an affordable verifying process organized by a private company and real implementation on the ground, and such that sustainability criteria do not become an unnecessary burden to the development of renewable energy in Europe; - and implemented in a realistic period of time.

H.1.1. Please explain -open reply-(optional)

See our answer to question H.1.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added  
-open reply-(optional)

Cooperation mechanisms could be an efficient instrument to reduce the overall costs of the RES policy. GDF SUEZ regrets that this instrument is not yet implemented and does not allow energy companies to realize projects in this framework.

I.2. Do you think the EU should further facilitate

Yes, cooperation with third countries should be further promoted

cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

(please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

See our answer to question I.5.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Investments in networks should be favored in all EU countries where the implementation of RES proves to be cost efficient. Interconnection grids should be favored in order to facilitate the exchange of RES between European countries. In particular, large international grid development needs to allow electricity flows from North to South in winter and from South to North in summers.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Bilateral agreements between Member States and third countries should be encouraged. GDF SUEZ considers however that in general local RES cost-efficient generation/consumption should be preferred as it is in most cases more cost-effective than importing it from third countries. However, cooperation with third countries should in any case be assessed.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

GDF SUEZ estimates that EU should encourage by adequate measures, the coordinated development of RES projects, backup resources and interconnections and transmission grids.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

System integration and industrial manufacturing and supply chain are major challenges to be further addressed. It means that R&D should focus on flexibility in supply and demand (storage, CCS, DSM, smart devices/ cars/ networks/ cities, etc.), on all technologies enabling recycling. Moreover, competitiveness of EU manufacturing should be promoted a.o. via strong training programs and university education and research. On the SET Plan: the current European Industrial Initiatives launched within the SET Plan have produced very ambitious roadmaps and implementation plans which are still not clearly financed (even if the future program HORIZON 2020 would take them largely into account. Part of the work and technological development and demonstration will be to be further supported after 2020. Moreover, these European Industrial Initiatives are dealing with the most promising technologies for 2020. Some other have a farther horizon of time such as large (battery) electricity storage, marine energy source, integration of enabling technologies such as nanosystems, or may emerge like large transformation of green and intermittent electricity into synthetic gas for storage and transportation purposes (Power to Gas). Large demonstration projects should continue to be supported after 2020 in order to further address system integration and optimization issue. Moreover, environmental assessment based on clear and shared methodologies should be used to help technological choices.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

See our answer to question J.2.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

See our answer to question J.2.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Research and even Development have always a large uncertainty in the success of their outcome. Europe should also support risky development or breakthrough technologies.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

EURELECTRIC ; Contact person for questions: Pierre Schlosser ;  
pschlosser@eurelectric.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>Yes, an indicative and non-legally binding target at EU level is appropriate</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>The binding 2020 targets have been beneficial in providing increased support and a higher profile for renewable energies. They have helped to develop RES as a mainstream source of electricity, but have also introduced conflicts with other EU policies, e.g. EU ETS and the internal market; and these policy conflicts will become more pronounced as the renewables market share increases. Therefore, the main focus should be on the development of a system approach rather than on targets. EURELECTRIC hence considers that after 2020, renewables in the electricity sector should move towards being fully integrated in the market, with a strong carbon target implemented over the entire energy system. The EU ETS is the main policy instrument for decarbonising at the EU level, in contrast to EU policies executed through national approaches on RES. EURELECTRIC believes that indicative targets at EU level could act as a useful signal for the continuing development of renewables, in recognition of their benefits for decarbonising Europe, security of supply and industrial development. Investors need stability to deliver on investments.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Other (please specify)</p>
<p>Please specify which other policy elements? -open reply-(optional)</p>	
<p>Policies are needed to increase public acceptance in RES investment and the related and necessary grid investments: awareness and information campaigns, transparency and adequate participation of stakeholders in permitting procedures. These policies are needed as early as possible, not only after 2020. Coordination of renewable energy development and network development is needed, with a view both to developing the network effectively and making best use of the existing network. Ideally generation should be located near to and in proportion to consumption.</p>	
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
<p>Please specify which technologies/circumstances/markets -open reply-(optional)</p>	
<p>Yes, financial support will continue to be necessary to support specific renewable technologies which have not yet reached maturity in 2020. In order to promote a proper and undistorted market functioning, there should be a gradual shift from production support to innovation support. This means that after 2020, RES support should primarily take the form of research, development &amp; demonstration funding. Most investments in new renewable electricity generation post 2020 should therefore be without specific support other than the effects of ETS. If support schemes are continued, they should imperatively go hand in hand with markets so as to prevent distortions in the price formation mechanism or act as barriers to market integration. Moreover, with a cost-efficiency consideration, priority funding should be granted to those technologies which are close to competitiveness or have the potential to rapidly close the cost gap with mature technologies.</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes -</p>

<p>best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)</p>	<p>Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

All of the above listed measures should be addressed, as much as possible before 2020, in line with the evolution of the internal energy market. EURELECTRIC considers that a cost-effective deployment of RES will be ensured if the following conditions are fulfilled step by step and in the following order. 1. Open up national support schemes to cross-border projects (i.e. use cooperation mechanisms) 2. Accelerate convergence of national support schemes. This should be done gradually and transparently and in a way that does not damage investor confidence. 3. Make support schemes more market-oriented 4. Phase out support schemes over time, as technologies reach competitiveness to market prices Studies like EURELECTRIC/Pöyry 2008 or Primes 2008 reveal that a European and market-based approach will reduce the costs to deliver on these goals significantly. A European approach to renewables can exploit open markets and geographic advantages to deliver the necessary growth. A European approach would also provide consistency with overall European market integration, with the EU energy market to be set up, according to the European Council, by the end of 2014. Regional integration is a promising means to achieve the target. The best performing region could serve as a benchmark for the others. Moreover, the concentration of RES in one specific region must be aligned with a corresponding increase of interconnection/distribution network reinforcement & upgrade.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>N/A</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply- (optional)</p>	<p>Yes (please explain how this could be achieved and which support structure you consider most suitable)</p>
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

EURELECTRIC supports a European approach (i.e. more coordination and more convergence between existing support schemes) to RES support (and we elaborate further on these aspects later in our response). EURELECTRIC's long-term position is to see a European convergence to market-based mechanisms, without technology-specific support. Currently, there is an incentive to invest in the country where RES support is the most attractive, rather than where the resource-efficiency (i.e. the load factor) is highest. Financial support schemes in the EU should converge on the basis of the cooperation mechanisms foreseen in the RES Directive. Common RES instruments would reduce the cost of achieving EU policy goals, as opposed to many different systems.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

When considering policy options, it is important to look at which sectors are (or should/will be) covered by the ETS. For sectors not covered by the ETS, a different approach to support can be useful, compared to the one applied to electricity for example. The above mentioned sectors are all affected by the targets set in the RES Directive; however, mainly due to technological constraints, not all of them contribute in the same way to achieving the 20% target. With a view towards 2030, we believe that a fair burden-sharing between the above mentioned sectors is essential to avoid market distortion, e.g. perverse incentives to use fossil fuels rather than renewable electricity for heating. The aim should be to achieve the EU target at least cost consistent with the available potential and using common instruments.

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of</p>	<p>Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third</p>
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a rising share of renewables? -multiple choices reply-

countries

(optional)

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

The requirements of the internal electricity market and renewable electricity reaching possibly a third of the market in 2020 is an important argument for having the ETS and not new support schemes as the main driver for new investments in RES generation post 2020. A bottom-up convergence based on joint certificate schemes would be desirable (on the basis of the Norway-Sweden joint support scheme for example), or joint projects could be pursued. This would have the effect of encouraging development in optimum locations (rather than where support is most generous) and should make costs converge around Europe.

Please explain how it could be achieved for third countries -open reply-(optional)

Member states should fully implement Article 9 of the RES Directive. Constraints to flexible mechanisms foreseen by Directive 2009/28/CE should be relaxed, such as the limitations to import from third countries. It will be important to ensure that definitions of renewable technologies are consistent and that double counting is avoided, i.e. imported renewable power should not count towards the target of the exporting country.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Regardless of the scheme applied, it is essential that RES generators compete on a level playing field with all other generators, i.e. paying connection, grid access and balancing charges like others. Support should be adjusted to cover these costs, ensuring a more transparent system. Indeed, those support schemes which expose RES generators to market prices are more compatible with the well-functioning of electricity markets. Schemes based on feed-in premiums or on tradable certificates allow exposure to market dynamics and are therefore preferable to basic feed-in-tariffs. Moreover, we consider that alternative support instruments (such as for example risk sharing facilities) should be explored further as they contribute to deliver a secure investment climate. Lastly, support schemes which are asymmetric cost charged to electricity import/export will distort the electricity market between two neighbouring countries.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-

(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

The aspects listed above are all relevant and should be addressed to stimulate investments in RES capacities. In general, the length of the administrative procedures is the most important issue to deal with. Planning and authorisation delays must be tackled both in relation to renewable energy facilities and the power lines required to connect them.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

A European approach to common EU projects should be designed on authorisation procedures. EURELECTRIC welcomes the measures recently proposed as part of the Commission's Energy Infrastructure Regulation, in particular the one-stop shop and the

mandatory time limits for electricity transmission projects.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

An interconnected power system creates interdependencies which make more harmonisation of network access and connection rules necessary for a secure operation of the power system. Convergence of grid connection requirements with impact on cross-border network and market integration should be pursued on the basis of the 3rd Energy Package. Requirements should however be proportionate for all types of generation, and standards for existing generation facilities should only be changed if justified by cost-benefit analyses. Following a growing share of RES, a lack of level playing field between supply technologies and a lack of harmonised rules for balancing, grid connection and access (at transmission level) create regional imbalances within and between member states that further increase the stress on the transmission system, making the issue even more urgent. This, together with the lack of proper cross border cost sharing of the grid expansion needed to realise RES expansion, will in the longer run impact the pace and potential volume of further RES expansion. To reveal and allocate costs when and where they occur (cost-reflectivity principle), it is necessary to limit total costs and to create incentives for innovation in system services and efficient integration of the renewables. Regulation should notably allow DSOs to follow an active network management approach revolving around investments in ICT and a more efficient grid planning and operations.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

EURELECTRIC stresses that these relevant issues need to be addressed far before 2020. We believe that priority of dispatch and guaranteed network access for RES generation, set by the new RES Directive, should not exempt these generators from their scheduling and balancing obligations, otherwise full integration of wind and solar generation in the market will never be achieved and wind generation will never be able to compete with other types of generation. After 2020, every technology must compete on the market under equal conditions. Therefore, no priority dispatch should be given to any specific technology. An increasing share of variable generation will increase the value of and need for a well-functioning internal wholesale market with proper scarcity signals. These signals will become increasingly important to support not only a cost-efficient transition towards a low carbon economy, but also the adequacy of electricity supply in the interconnected EU system. It will thus be of increasing importance to support a level playing field, and to ensure that RES is fully incorporated in the electricity markets, taking responsibility for own imbalances and being dispatched on equal terms as other sources. The number of events when RES curtailment for system security reasons is needed is already on the rise in Europe. This will, in the future, require more economic approaches towards grid integration and participation of RES in system security.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

EURELECTRIC believes that the challenge of managing variability will require innovation and investments as well as a reliable regulatory framework that provides the right incentives for energy infrastructure investments in this new environment. Variability at unprecedented levels will therefore have to be managed, with major implications for all generation technologies, transmission and distribution grids, energy markets and end-users. A system approach which takes into account the flexibility on the generation side, the flexibility on the demand side, the degree of market integration and the degree of interconnection of different power systems is needed. Variability requires flexible back-up capacity from dispatchable generation (thermal and hydro), enhanced demand side participation, integrated markets and transmission and distribution grids. Market prices must always be allowed to reflect the hourly supply-demand balance, affected by RES variability, in order to give correct signals for flexible and back-up capacity, as well as for demand response. Improved forecasting of wind and solar power, enhanced ability to regulate dispatch from the existing generation fleet, and improved balancing, also on the border, intra-day and day-ahead markets will also be key elements.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

EURELECTRIC considers it necessary to ensure a level playing field for balancing responsibility which applies to all producers, including wind generators, in order to stimulate all market participants to carry out thorough and proper scheduling and forecasting and thus limit system costs. In order to support the market integration of RES it is also important to recognise the value of a further development of intra-day trade across borders in order to provide RES generators with sufficient possibilities to manage their imbalances.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

We believe that a combination of measures 1 (while ensuring compatibility with well-functioning electricity markets and their European integration) and 3 will bring about the right regulatory framework to deliver on these solutions. Flexibility solutions should compete on a level playing field. In any case, every dedicated arrangement to reward flexibility capabilities should be designed with the goal of avoiding any distortion on electricity markets. The discriminatory treatment of pumped-storage in various EU Member States (e.g. 'double grid fee obligations' in Austria, Germany and France to name only a few) should be eliminated, so that the flexibility potential of pumped storage can be fully reaped in Europe. In addition to these measures, the regulatory framework needs to ensure that the European-wide market coupling of the day-ahead and intra-day market, as well as balancing market integration are realised quickly, and that there are no artificial price caps or floors limiting the flexibility potentials in both generation and demand. Finally, as gas is to play a major role in terms of flexibility, the underlying gas markets need to develop towards a single EU gas market which flexibly delivers gas supplies to power stations (both commercial and technical flexibility).

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	The current wholesale market model based on short-run marginal cost pricing is appropriate
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Lack of public support - Other (please specify)
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Please specify which other barriers -open reply-(optional)

- Lack of supportive tax policy – e.g. carbon taxes on heating fuels. - Lack of incentives for RES heat commensurate with those for RES electricity but if incentives, need for convergence at EU level. - Lack of financial support is a considerable obstacle. - Lack of public support is a major barrier. Public spending should promote long run energy efficiency gains particularly in infrastructures with high energy usage, thus sustainably supporting specialised businesses and skills. - The decentralised nature of the sector with many millions of decision-makers makes change more difficult to implement than in electricity.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Geothermal - Solar thermal - Other (please specify)
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Please specify which other pathways -open reply-(optional)

Yes, there is scope for developing biomass-based CHP, though this is likely to vary across the EU. As a mature technology, CHP should be developed on market terms and where there is existing access to heat consumers and sufficient heat demand. There is also potential for increased used of bio-methane for direct injection into gas networks. The setting of the fuel mix should be left to market dynamics. Integrated smart grids and metering systems with home storage and management technologies enable the efficient measurement of energy use and promote energy efficiency through adequate planning of cost-effective consumer behaviour and investment.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)
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Increase efficiency of buildings and optimise heating and cooling systems. Heat pumps can contribute here, with high conversion factors.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Lack of awareness - Other (please specify)
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Please specify which other barriers -open reply-(optional)

For plug-in and battery electric vehicles the biggest obstacle remains the costs for batteries, which can add 6-16k €/car. The resulting higher up-front purchase price is the key deterrent for customers. This needs to be addressed in order to become an attractive alternative to ICE cars for the consumers. As with every new technology, standardisation is a prerequisite for market deployment and development. Europe still has not found consensus on a single connector to charge electric vehicles which would enable electric vehicle customers to charge their vehicle anywhere in Europe without having to worry about the compatibility and interoperability of different cables. A solution to the regulatory issue of shutters/IPXXD would be the single most immediate contribution for providing a single, harmonised solution for connecting electric vehicles to the charging infrastructure across Europe. In comparison to other alternative transport fuels, for example hydrogen, the infrastructural hurdles are rather low for electricity taken from the distribution grid. The basic infrastructure for recharging battery electric vehicles is already in place: electricity distribution grid connection points already offer recharging possibilities with domestic or industrial sockets. However, if electricity is to be used as a transport fuel under mass market conditions, the distribution network will require a dedicated and intelligent electric vehicle recharging infrastructure.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

The state-of-the-art technology of battery electric vehicles already offers a sustainable alternative for urban traffic. Road passenger transport especially in urban areas should shift to electrified vehicles as they significantly reduce the environmental impact: they produce no local emissions (zero tank-to-wheel), no air pollution and no noise pollution. In this regard, EURELECTRIC welcomes the goal set in the Transport White Paper to phase out conventional cars in cities by 2050. In addition, EURELECTRIC is convinced that electric vehicles can complement a multi-modal approach of transport by electrifying the last/first mile of a journey. Buses for public transport in urban areas are predominantly operated with diesel engines. In order to reduce global as well as local emissions caused by public transport, full electric buses are being investigated as a low emission alternative. Different technologies exist (battery swapping, conductive (AC/DC) and inductive charging, ultra-fast recharging at regular stops), and cost estimation and grid impact are being studied. Electric drive trains may also offer solutions for urban freight transport by turning the last miles of a supply chain electric. Again this has a huge potential to reduce urban noise and air pollution, which is particularly important given the growing urbanisation rate. The rail sector is already electrified to a large extent where economic performance allows for electrification of overhead lines.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

EURELECTRIC views bioenergy as a key tool in fulfilling the EU's 2020 renewable energy targets and curbing climate change. Forecasts suggest that electricity production from biomass will increase from 90 TWh in 2006 to between 200 and 360 TWh in 2020. EURELECTRIC members will play a major role in developing this growth in biomass-fired power generation. Biomass is an essential part of the renewable portfolio; unlike other sources of renewables, it can provide baseload power generation and heating, and can also be used in existing thermal plants. Furthermore, biomass can be used as fuel in the automotive and transport sector. We favour the use of sustainable biomass, avoiding potential detrimental effects on the environment and social welfare. We believe that in the medium term, the use of biomass in all sectors – not just energy – should be subject to sustainability requirements. However, there is a danger that the administrative burden of verifying such sustainability requirements could hinder the positive development of biomass use. Therefore criteria must be proportionate and appropriate to the purpose.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added -open reply-(optional)

As far as a European approach to RES development is concerned, EURELECTRIC considers that the use of cooperation mechanisms (in the short term) and progressive convergence of support schemes for RES towards a market-based design (in a medium to long term) must be incentivised to ensure cost-effectiveness and to establish a European level playing field. A clearer framework for use of the mechanisms needs to be established. The main problem is political will. Member States need to incentivise companies to undertake joint projects where this will reduce the cost of meeting national targets. A regional approach makes sense, and nearby geographical regions should take advantage of this in order to ensure maximum economic efficiency. In this regard, the common certificate scheme between Norway and Sweden can be considered as a promising development. Interconnections should be further developed to ensure inter alia that renewable power can be effectively utilised across the EU. In order to secure a cost-efficient development, the total system costs needs to be taken into account, including investments in generation, transmission, distribution and balancing costs.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation should be based on market-based mechanisms, thus reflecting commercial rather than physical criteria. The Guarantees of Origin system (made free of current Directive constraints) could offer an effective basis for developing cooperation mechanisms with third countries, thus promoting a progressive convergence of support/cooperation mechanisms.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

There should be a role for the European Infrastructure Fund for Transmission to third countries.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

We call for a full implementation of Article 9 of the RES Directive in all Member States. We see plenty of political and economic opportunities in this cooperation with third countries. The Commission could act as a facilitator in this regard and could provide a clear and transparent platform on the existing projects.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Instruments promoting the import of renewable electricity from third countries to meet European RES/decarbonisation targets exist, but can be further exploited. Article 9 of the RES Directive already offers the opportunity to meet RES targets via imported electricity from third countries, and should quickly be transposed into national law by EU Member States. However, cooperation mechanisms within the EU should not be forgotten: they are even more important and should be used without delay.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Yes, such cooperation should be further fostered and a European approach should be pushed forward to encourage the smooth and swift development of offshore wind in Europe.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be

Technology performance and cost-competitiveness - System integration - Other (please specify)

the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

A stronger focus on the full innovation chain and on research, development and demonstration (RD&D) is needed. Enhanced RD&D is needed to propel low-carbon technologies towards competitiveness in Europe and initiatives with a European scope such as the European Institute of Technology should be further promoted. Technology performance and cost-competitiveness along with system integration are the remaining key challenges. As far as system integration is concerned, there should be a strong focus on enabling technologies such as Smart Grids or energy storage with the objectives of identifying what measures must be pursued to upgrade power networks to facilitate a larger scale integration of renewable energies. Smart Grids have an enabling feature to RES integration and so does demand response . In order to achieve the 20% RES target for 2020, EURELECTRIC considers that a clear focus should lie on the most mature RES technologies.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Dissemination of publicly funded R&D results is essential. Investments in skills are key for Europe to meet its energy and climate objectives. The EU as a whole should ensure that future investments can be sustained by a well-trained and skilled workforce.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Storage technologies for load-levelling and energy management are currently not covered.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

We are witnessing a strong contrast between the ambitions for RD&D in energy and a reality in which spending is insufficient, fragmented and uncoordinated. In order to deliver on the ambitious 2020 agenda, and especially the 20% RES target, EURELECTRIC recommends the following nine general actions: 1. Significantly increase the energy-related RD&D budget. 2. Be realistic about what can be achieved by 2020 on the RD&D agenda, focus accordingly and be accountable for the steps to get there. 3. Focus more on deployment and commercial market uptake. 4. Focus clearly on mature technologies, in order to deliver on the 2020 targets. 5. Promote cooperation and exchange among member states and stakeholders on deployment experiences and RD&D focus and priorities. Avoid duplication of efforts. Set best practice and benchmarks and make them public. 6. Ensure stable incentives for industrial participation. 7. Give the SET Plan an independent budget line and use it as a major instrument to deliver on the 2020 targets. 8. Lighten the bureaucracy around EU research programmes. Adopt a results-oriented approach to programmes and ensure EU-wide benefits, but question for example the required number of participating countries. 9. Rather than merely stimulating competition across all EU member states for limited funding, consolidation or research and demonstration via hubs may lead to advances. A number of demonstration and innovation hubs across the EU should be identified.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Stephan Orita, s.orita@agfw.de, AGFW   Der Energieeffizienzverband für Wärme, Kälte und KWK e. V.
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, an indicative and non-legally binding target at EU level is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Sektorale Ziele sind nicht notwendig, sondern kontraproduktiv. Erneuerbare Energien sollten dort eingesetzt werden, wo sie den größten Nutzen erzielen können. Nur durch den rationellen und effizienten Einsatz von erneuerbaren Energien können politische Initiativen, welche auf eine beschleunigte Entwicklung dieser Energien zielen mit den energie- und klimapolitischen Zielen und Politiken in Einklang gebracht werden. Ziele und Politiken bezogen auf erneuerbare Energien sind kein Selbstzweck, sondern dienen höheren Belangen der Energie- und Klimapolitik, wie dem Einsparen von Primärenergie (Energieeffizienz) oder dem Klimaschutz (Vermeidung von Treibhausgasemissionen).

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

Benötigt werden insbesondere Politiken, um erneuerbare Energien in das Energiesystem zu integrieren, wie etwa Wärmespeicher (siehe unten) und den großflächigen Einsatz von erneuerbaren Energien in den immer weiter wachsenden Ballungsgebieten zu ermöglichen, wie etwa durch Fernwärme oder –kälte. Erneuerbare Energien sollten dort eingesetzt werden, wo sie den größten Nutzen entwickeln können, etwa beim Einsatz in Kraft-Wärme-Kopplung. Notwendig ist ein ganzheitlicher Ansatz, um eine Entwicklung der erneuerbaren Energien im Einklang mit den höheren Belangen der Energie- und Klimapolitik zu ermöglichen.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

Für die Entwicklung der erneuerbaren Energien nach 2020 ist ausschlaggebend, dass die vorhandenen Ressourcen so effizient wie möglich eingesetzt werden. Dies betrifft neben den nur in eingeschränktem Maße vorhandenen finanziellen Mitteln auch den zur Verfügung stehenden Raum, etwa für Aufstell- oder Anbauflächen. Erforderlich wird also die Förderung einer Entwicklung, welche den Herausforderungen der Zukunft gewachsen ist. Insbesondere wird die Integration von erneuerbaren Energien in das Energiesystem und die zunehmende Verstärkung mit der fortschreitenden Entwicklung von erneuerbaren Energien besondere Herausforderungen

darstellen. Benötigt wird daher eine Förderpolitik, welche ein besonderes Augenmerk auf die stetige, verbrauchsnahe und kosteneffiziente Bereitstellung von erneuerbarer Energie richtet.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how)
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Eine sinnvolle Förderpolitik kann Marktelemente beinhalten, so dass sich bei gleichzeitiger Investitionssicherheit die kosteneffizienteste Lösung durchsetzen kann. Strom aus erneuerbaren Quellen könnte am Markt teilnehmen und die Investitionssicherheit durch einen entsprechenden Zuschlag auf den Marktpreis gewährleistet werden.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	No, support levels should be entirely up to Member States
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	N/A
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	
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C.1.1. Please provide explanations and specific examples where available -open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	N/A
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	None of the above
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	None of the above
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D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Other (please specify)
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Please specify which other measures -open reply-(optional)

Wärmespeicher in Verbindung mit Kraft-Wärme-Kopplungs-Anlagen sind ein wichtiger Baustein für eine verbesserte Integration erneuerbarer Energien in das Stromnetz. Wärmespeicher speichern thermische Energie und ermöglichen in Verbindung mit einer Kraft-Wärme-Kopplungs-Anlage die Integration von erneuerbaren Energien. In Zeiten geringer Stromproduktion aus volatilen Quellen wie Wind oder Photovoltaik kann die Kraft-Wärme-Kopplungs-Anlage Strom für das Netz bereitstellen. Sollte die Wärme im angeschlossenen Wärmenetz nicht oder nicht in diesem Umfang benötigt werden, so wird der Wärmespeicher geladen. In Zeiten hoher Einspeisung durch volatile Quellen wird die Wärme aus dem Speicher genutzt und besteht die Möglichkeit den im Netz nicht benötigten Strom in Wärme zu wandeln und so nutzbar zu machen. Wärmespeicher verfügen insbesondere durch ihre aktuell bereits gegebene technische Verfügbarkeit, ihre relativ kurzen Realisierungszeiten, ihre relativ gute Akzeptanz sowie die verhältnismäßig geringen Investitionskosten über relevante Vorteile im Gesamtvergleich mit alternativen Lastmanagementoptionen. Dies wird auch von einer aktuellen Studie der Prognos AG bestätigt ([http://www.prognos.com/fileadmin/pdf/publikationsdatenbank/2011-12-19\\_Kurzstudie\\_Waermespeicher\\_Prognos.pdf](http://www.prognos.com/fileadmin/pdf/publikationsdatenbank/2011-12-19_Kurzstudie_Waermespeicher_Prognos.pdf)).

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid
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E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Dedicated arrangements to reward availability of generation capacity
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E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	N/A
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Solar thermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Erneuerbare Energien und Energieeffizienz gehen Hand in Hand. Erneuerbare Energien müssen so effizient wie möglich eingesetzt werden, etwa in Kraft-Wärme-Kopplung, um ihren Nutzen zu maximieren und einen möglichst großen Bedarf decken zu können. Durch den effizienten Einsatz von erneuerbaren Energien in Fernwärme und –kälte durch Biomasse Kraft-Wärme-Kopplung, Geothermie und/oder Solarthermie können Skaleneffekte genutzt und erneuerbare Energien in Ballungsgebiete gebracht werden.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Limits of availability of sustainably produced biofuels
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Rail
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient
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H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	No (please specify how they should be amended or which elements added)
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Please specify how they should be amended or which elements added -open reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
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Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	No (explain why)
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Please explain why -open reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	N/A
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on

electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Wie oben ausgeführt sind Wärmespeicher in Verbindung mit Kraft-Wärme-Kopplungs-Anlagen ein wichtiger Baustein für eine verbesserte Integration erneuerbarer Energien in das Stromnetz. Wärmespeicher speichern thermische Energie und ermöglichen in Verbindung mit einer Kraft-Wärme-Kopplungs-Anlage die Integration von erneuerbaren Energien. In Zeiten geringer Stromproduktion aus volatilen Quellen wie Wind oder Photovoltaik kann die Kraft-Wärme-Kopplungs-Anlage Strom für das Netz bereitstellen. Sollte die Wärme im angeschlossenen Wärmenetz nicht oder nicht in diesem Umfang benötigt werden, so wird der Wärmespeicher geladen. In Zeiten hoher Einspeisung durch volatile Quellen wird die Wärme aus dem Speicher genutzt und besteht die Möglichkeit den im Netz nicht benötigten Strom in Wärme zu wandeln und so nutzbar zu machen. Wärmespeicher verfügen insbesondere durch ihre aktuell bereits gegebene technische Verfügbarkeit, ihre relativ kurzen Realisierungszeiten, ihre relativ gute Akzeptanz sowie die verhältnismäßig geringen Investitionskosten über relevante Vorteile im Gesamtvergleich mit alternativen Lastmanagementoptionen. Dies wird auch von einer aktuellen Studie der Prognos AG bestätigt ([http://www.prognos.com/fileadmin/pdf/publikationsdatenbank/2011-12-19\\_Kurzstudie\\_Waermespeicher\\_Prognos.pdf](http://www.prognos.com/fileadmin/pdf/publikationsdatenbank/2011-12-19_Kurzstudie_Waermespeicher_Prognos.pdf)).

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Enel Green Power S.p.A. / ID number 06877217926-31 / marco.seeman@enel.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Italy

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The existing 2020 binding target was fundamental in order to increase the penetration of RES in the market and reduce the generation cost gap with respect to conventional energy technologies. Such deployment has brought RES technologies close to being competitive on electricity markets. However, in other cases RES targets have reduced resources which could have been better allocated to stimulate low carbon innovation and have underestimated the cost for the consumer. In some cases renewable energy targets have led to an excessive focus on renewable sources based on assumptions made under a pre-financial crisis scenario. We believe that most renewable technologies will continue to gain significant market shares after 2020 entering the consolidation phase without the need of a specific EU binding target after 2020. The decision to extend RES targets beyond 20% should be left to Member States in line with the subsidiarity principle. In our opinion, the EU ETS should remain the key driver for decarbonising the European economy. The current scenario shows how setting mandatory targets for RES collides with targets for CO2 reduction since ambitious targets for RES deployment have contributed to low levels of carbon prices, the key driver for EU ETS. In such respect we believe that urgent action needs to be taken so that the ETS system provides the necessary price signals to ensure decarbonisation of the electricity sector through inter-alia the development of RES technologies.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Selective and differentiated support mechanisms per technology.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

We maintain that the financial support to renewable technologies should be maintained post 2020 for the period and level that is required until each technology reaches commercial competitiveness vis-à-vis conventional energy production costs in each regional market that they are deployed.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Financial support to renewable technologies, where and when still required, should be regularly updated and revised by the competent authorities in order to reflect proven changes in technology costs as well as other parameters that may affect the total cost of production (eg financing costs).

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with benchmark values for support level per technology per Member State

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

B.3 - Further development of renewables will need additional steps on achieving markets integration. For this purpose it is a "must" to develop shared approaches to support schemes to enable fair competition. Similar approaches for each renewable technology should be developed for countries with comparable primary renewable resource (Europe support schemes must promote the efficiency in the use of the primary renewable resource). B.4 - Benchmarking Technology and cost evolution across Member states should be monitored in order to establish appropriate level of support for those technologies requiring it and gradual reduction of support for evolving and maturing technologies. Harmonization should be carried out to eliminate risk of arbitration between support schemes across member countries.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

No difference.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States should open their support schemes to renewable generation from third countries

Please explain how it could be achieved for third countries -open reply-(optional)

The developments of REN post 2020 ( in vew of the 2050 road map) will necessarily involve third Countries in the neighborhood of the European Union, with specific regard to the Mediterranean rim and the Nordic region where REN resources are abundantly available. The instruments already stipulated by the 2009 RES Directive provide a satisfactory first step in this direction.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Competition is disturbed particularly when there is cross border trading and the same renewable technology have different market exposures between countries.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available -open reply-(optional)

In some countries (like Spain for instance) there are different and even contradicting laws/regulations at local and regional level There is not a clear and homogeneous procedure and the relationship between the different authorizations delays the procedure.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Two above policy responses: 1) push for more standardization and harmonization on EU level or mutual recognition; 2) strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

One of the major obstacles can be the curtailment and even complete stop of production imposed by the TSOs to RES generators in the case that the grids are not sufficiently reinforced and the TSOs have to resort to such actions in order ensure the stability of the electricity system.To be noted that, by undertaking the required investment in grids and in infrastructures the current problems regarding grid connection rules and curtailment regime may be solved by 2020 (Grids will have improved and electrical vehicle and storage or other measures to manage the load will minimize today´s problems).

D.2. Which renewables-specific grid related rules do you consider necessary and

Obligation for network operator to develop network - Other (please specify)

proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Please specify which other rules -open reply-(optional)

Gradually encompass also RES in dispatching market mechanisms.

D.2.1. Please explain why -open reply-(optional)

This will enable RES to fully participate to the benefits of other market rules, the needs for support and accelerating the diffusion of flexible technologies.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

On price risk: the premiums should be set at level to guarantee sufficient investment returns throughout the investment horizon and should be frequently adjusted in an objective and predictable manner in order to reflect changes in total production costs. On balancing risk: the producers should however also be able to collect revenues from offering dispatching and balancing services to the TSO according to existing market rules.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

With reference to the above first point (E.2): particularly regarding RES generation, the adoption of market mechanisms that will allow RES producers to develop and operate systems that enhance the programmability of their generation and benefit from dispatching and balancing markets will contribute towards increased flexibility of the electricity systems.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

A set of market rules addressing capacity with high capex/ opex ratios could comprise: possibility to contract energy supply on long term basis , well beyond 5 to 15 years at fixed prices, as well as the possibility to contract capacity indexed to inflation.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Geothermal - Solar thermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The applications of smart-buildings are the link between renewable energy and energy efficiency. In order to achieve an efficient use of renewable energy in heating and cooling, buildings must have advanced "smart-building systems" installed to enable the detection and management of energy needs and match them with optimal use of the available renewable energy.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Pace of technology development - Limits of availability of sustainably produced biofuels
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)
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Please specify which criteria  
-open reply-(optional)

Short range travelling biomass use should be favored against large biomass volumes travelling long distance. Biomass from agricultural residue as well as forest maintenance should be preferred against dedicated crop.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient	No (please specify how they should be amended or which elements added)
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to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

Please specify how they should be amended or which elements added

-open reply-(optional)

The theory has not yet been proven in practice since Member States seem to be focusing first on realizing their targets using their own resources within their own geographical perimeters. The perception is that, in the absence of mandatory cooperation mechanisms, Member States will start discussing cooperation on the fulfillment of their targets only close to the 2020 deadline when the visibility on the achievement (or not) of their 2020 targets will be much higher.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

There is growing interest in developing renewable energy potential in cooperation between Member States and neighborhood countries. While the cooperation mechanisms in the current Directive provide for a general framework, there is the need to drill down on case by case, country by country, taking into account the experience from projects currently under discussion. EU should cooperate in a medium-long term with neighboring countries with which there are already existing energy interconnections and economic exchanges (i.e. Maghreb, Balkans, Turkey and South Mediterranean countries) taking into consideration that these countries have higher RES resources and hence more competitive generation costs compared to RES generation in EU. In addition to this the industrial evolution of these economies is critical for the balanced evolution of the EU economies and it would be best served by these mechanisms.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Members States should prioritize investments in electricity networks in the context of promoting bilateral energy flows through Member State- third country level (eg. Spain-Morocco), Member State-Member State interconnections (i.e. Italy-France) and interconnection at a national level (i.e. North-South Italy). The wider issues of increasing flexibility will ensure a competitive EU electric market creating the right investment signals.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

We think this region should be at the core of the application of the Energy Policy and that special efforts should be dedicated by EU and concerned member states to address energy needs and development of this area.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

A careful and thorough analysis of such schemes should be carried out and constantly validated to ensure that such initiatives bear concrete economic benefits for the whole EU.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Additional measures can be: a) to enhance the role of the European Technology Platforms through a dedicated co-financing by the European Commission; b) to set-up Trans-European Technology Platforms on R&D between academia, research centers, industry, European/International associations; c) to develop new models of PPPs (Public Private Partnerships) d) to facilitate co-financing and align EU-funds with international financial instruments (such as EIB's Risk Sharing Finance Facility (RFSS)); e) to enhance the coordination between EU and Member States on the use of EU structural funds. The objective should always be for each technology to reach cost competitiveness.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Geothermal and Ocean Energy (waves, tides, currents, salinity gradient and thermal gradient). Notably for geothermal energy it is important to stress that it is in line with the recently published IEA technology roadmap, particular attention should be devoted, in addition to the industrial side, also to the need of achieving a satisfactory level of social acceptance which is a crucial element to ensure a satisfactory deployment. Last, the combination of two RES technologies in hybrid mode should be prioritized because it can provide a optimisation of the investment in grids by maximation the utilization of the access and connection to the grid.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

The lack of financial resources at EU and MS level to make the SET Plan fully functional has been the most significant drawback. To this end, the European Commission's proposal for Horizon 2020 to implement the SET-Plan (possible allocation of 6.537 M€ for non nuclear energy research for the period 2014-2020) should be adopted. A further drawback is the lack of synergy between some of the key initiatives of the SET-PLAN (industrial initiatives and research initiatives); as such a stronger integration and collaboration should be developed between EIs (European Industrial Initiatives) and the EERA (European Energy Research Alliance).

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

In line with the EU's ambitions for an almost GHG-free Europe post 2050, the targeted result as regards the assistance to technology development must always be that each technology should reach commercial competitiveness compared to conventional energy in each regional market it is deployed. We consider that no time deadline should be linked to this target.

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Umicore - Register ID Number 78662404191-38 (Email address: ana-maria.stoian@eu.umicore.com)
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A mandatory target for renewable energy would ensure the EU is on track to reach its objective of 80-95% greenhouse gas emissions reductions as outlined in the Roadmap to a low carbon economy and the Energy 2050 Roadmap in moving towards. Also, it will contribute to decreasing energy dependence and enhancing security of supply.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
- Enhanced focus on piloting and market integration - In the case of PV, make sure decentralization is a viable option	

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)	
The financial incentive system should be reviewed and analysed carefully.	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how) - Open up national support schemes to cross-border projects
Please specify how to make support schemes more market-oriented -open reply-(optional)	
Support schemes could be more market oriented if they link the level of financial support to the installed capacity in the last years in order to prevent the market to overheat.	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
An example of distorting support schemes is where companies that have no activity in a given country are excluded from funded projects in that country (for e.g. R&D funding). In the field of new emerging technologies, not every country has the entire value chain within its borders so support schemes should take this into account.	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single

choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling

beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of infrastructure - Lack of awareness

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers

G.2.1. Please explain your answer -open reply-(optional)

Road for passengers is the sector where increased share of renewable energy would bring the higher leverage on CO2 emission reduction. Furthermore, for this sector the technology is already available, approaching commercialization.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on

electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

- Energy storage

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

- Ensure additional R&D funding to reduce costs of large scale deployment of new technologies - Ensure adequate financial tools available for large scale deployment projects of relatively new technologies

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Currently, a drawback of the SET Plan relates to measures foreseen for materials used for low carbon energy. Materials play a pivotal role in ensuring efficient and cost-competitive low carbon technologies as outlined in the EC Materials Roadmap Enabling Low Carbon Energy Technologies. An intensive and continuous investment in research, development and deployment of advanced materials is a prerequisite to support the successful realization of the SET Plan. As such, a pan-European sustainable energy research programme for materials is required, with the aim to implement the Materials Roadmap Enabling Low Carbon Energy Technologies. All public and private efforts on materials research and innovation for energy applications across Europe need to be mobilised according to a logic of

joint implementation, risk and capacity sharing. If the SET Plan is based on a pillar approach, with different Roadmaps for each technology, research, development and innovation for advanced materials needs an integrated and horizontal approach. In this respect, we consider the upcoming Energy Materials Industrial Initiative (EMIRI) as an effective implementation mechanism.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes, key performance indicators must be developed. The key performance indicators need to be revised as technology evolves to ensure the ambitious targets set are successfully achieved.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

Euroheat&Power/eloi.piel@euroheat.org

-open reply-(optional)

2. Are you responding to this questionnaire on behalf of /as:

Industry

-single choice reply-(optional)

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

-single choice reply-(optional)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

• Need to focus on heat and the potential of efficient and integrated urban solutions – i.e. development of DHC to develop RES. • Focus on reducing the use of fossil fuels with efficiency measures and RES – i.e. policies should aim at reducing demands (in buildings, with DHC), recycling (CHP) and replacing the inefficient use of fossil fuels with RES. • Other instruments will help – eg CO2 tax for the non-ETS sector.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support

-multiple choices reply-(optional)

mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Public procurement obligations in support of renewables + ENERGY EFFICIENCY MEASURES (CHP heat)

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

• Support should take account of potential to reduce emissions and cost-efficiency of different sources – i.e. with the economy of scale, DH can achieve a lot in urban areas (where energy demands are concentrated). • Answer depends to a very large extent on how external costs will be internalized - for instance CO2 tax/implementation of ETS etc... • Heat is a local product - need for actions at local level to realize objectives set at EU level.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the

provisions of the Directive? -multiple choices reply-

(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

• Important to check the potential related to the integration of different markets: district heating can provide storage – under the form of tanks storing hot water - for intermittent power from wind and solar. Cf Danish example.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

• In policy discussions: most of the interest is in electricity/not enough focus on heat and local efficient energy infrastructures. • Lack of awareness on the potential of DH. • Lack of support to DHC infrastructures and adequate planning at local/regional level. • Due to the disperse nature of heating and cooling: need for comprehensive approach/local heat mapping – plans integrating all options to meet urban demands efficiently with energy efficiency/RES including with DHC infrastructures. • Policies on energy performance of buildings can act as barriers to the development of district energy. The focus on final energy savings neglects the potential to increase resource performance with integrated solutions such as DHC. • On cooling: lack of information on the use of electricity for cooling and clearly a lack of awareness on the potential of district cooling.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Other (please specify)

Please specify which other pathways -open reply-(optional)

• Potential attached to geothermal/solar thermal/DHC the infrastructure of choice to meet urban demands. • On Biomass: need to use it in the most sustainable way: the use of biomass to produce only electricity should not benefit from any support. • Regarding electricity: district heating can bring stability to energy systems with the possibility of heat storage. On cooling: • Cooling represents 10 to 15% of electricity usages in the EU. (no statistics on cooling demands, which are embedded in electricity demands) • Across the EU: increasing use of electricity for cooling purposes. • District cooling can use efficiently renewable resources such as deep lake cooling, river cooling, snow cooling, aquifer cooling, ground cooling and waste heat from various processes. • Cf examples in Paris, Barcelona, Amsterdam, Vienna, Stockholm, Helsinki etc.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Big role for EE to facilitate the use of RES/important to consider options that can integrate high efficiency and RES - cf district heating.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

Cf policy-paper: [http://www.euroheat.org/Files/Filer/documents/positionpapers/EHP%20on%20biomass\\_101208.pdf](http://www.euroheat.org/Files/Filer/documents/positionpapers/EHP%20on%20biomass_101208.pdf)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

E.ON AG; Dr. Verena Holzer; verena.holzer@eon.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Germany

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

A mandatory target at EU level after 2020 up to maximum 2030 is appropriate. Anyhow, in a long term perspective, we believe that there is no need for RES targets. RES integration in a competitive energy market will be driven by CO2-prices. In the meantime mandatory RES targets provide incentives for investors to invest into manufacturing industry, R&D and projects. This will help to reduce costs by learning effects and technology innovations, thus making Renewables more competitive in the market. Sectoral targets predetermine the use of RES. As this may hinder efficient use of RES, there is no need for sectoral targets after 2020.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

Bringing down costs of RES is key to their future growth and a broad public acceptance. Further support in R&D is needed for innovations and their way into the market. Facilitation policies are required to allow cost-efficient and timely realisation of RES and infrastructure projects. In this context, the timely extension of grid infrastructure plays a vital role and requires a suitable regulatory and administrative framework. The best environment for the development of RES is a true market environment. Therefore, policies should aim at an abolition of market barriers (e.g. subsidies to fossil-fuel energy sources, long permitting procedures) and help to bring liquidity in the market. Difficult financing possibilities are mostly a sign of investment risks. Best policy approaches therefore are stability of the market environment also regarding ETS and a clear commitment to RES. National wholesale market design must be designed in a way which enables the integration of RES. As concluded in the RES integration study, this includes the closer connection of regional markets and facilitating cross-border intraday trading.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

A possible phasing out of RES support post 2020 depends on a variety of factors as the cost reduction of RES technologies and the market environment, influenced by ETS and energy demand. The objective should be to focus on policies incentivizing investments and simultaneously driving down costs and enabling subsidies to be removed as quickly as possible. Exploiting the most suitable potentials in the different countries, e.g. by an EU-wide support scheme, will help to drive down the total cost of Renewables deployment. Depending on the development of power market prices and carbon prices, onshore wind may continue its cost reduction path and be able to reach competitiveness in wind-rich sites soon. Economies of scale, e.g. by larger project size that allows efficient construction and operations & maintenance will support this.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

At all stages policies and the respective support schemes should aim at driving RES costs down and bringing the RES closer to the market. • RES should start to be responsible for selling their power to the market (e.g. by pooling). Price signals should be introduced also in Feed-in-tariffs. Therefore, a shift to more market-orientation could mean a transition from FIT to a modular system consisting of market price and a RES add-on. Otherwise, incentives for developers to control costs will be eroded by the prospect of guaranteed support levels. • RES should take an active role in ancillary services: They should be subject to balancing rules, in the sense that they are fully responsible for deviations from forecast power production, as other generators. This would give RES producers the incentive to make their schedules and forecasts as accurate as possible. • RES can also take over system services, e.g. provision of idle power. • Although RES producers must be assured of network access, they should also be given incentives to contribute to managing congestion

and imbalances, even under feed-in tariffs. This means that RES generators should be required to make a nomination and offer terms to the transmission system operator to deviate from the nominated amount. In practice, this would mean that TSOs would have discretion to turn down renewable output, provided that compensations were paid to renewable producers.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

First of all, existing support schemes should open up to cross-border projects e.g. cooperation mechanisms. In order to support and work towards a joint and harmonised EU RES market, the European Commission could develop standards or best practice requirements for each type of support scheme existing within Europe. There should be no retrospective changes, as investments have already been made, and the expected levels and methods of support should be maintained. Cross-border projects and a related trade in Guarantees of Origins can be a very efficient way of reaching the RES targets. First projects should be initiated as soon as possible. In a mid-term consideration a convergence of national support schemes is necessary for an efficient allocation of RES and for driving down overall RES costs. Such a convergence of national support schemes has to be triggered by an EU-wide common framework set by the Commission. Only converged national support schemes are in line with the internal market approach. With regard to the internal market, the integration of RES to a competitive energy market and the competition between RES technologies and plants we consider a support system based on tradable green quotas as the most suitable approach. Harmonised support schemes are adequate to deliver a level-playing field for investment in renewable energy production and deploy RES most cost-efficiently.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Generally, a convergence of national systems would be adequate for the heating sector, too. The band-width of competing solutions for individual customer demands is wider in these markets than in the electricity market. Also, needs for investments into infrastructure are different. We anticipate a high impact also on the structure of the supply side of the market where the volume of the investment and the cost of market-building will require powerful players in certain segments of the targeted markets while in other segments small-scale structures will prevail. No "optimal" structure can be defined by legislative or regulatory intervention, but open market-based environments should be created to make market entries and investments attractive. A harmonisation and therefore stronger influence of an EU-wide regulatory framework might have positive effects as today RES-H support usually depends on public budget. Therefore, converged systems should apply off-budget policies, e.g. building obligations or support financed via surcharge on heat (fuel) cost. To deploy RES EU-wide in the most cost-efficient way, a cross-sector fulfilment of targets is needed, as in some countries RES-heat solutions might be a cheaper substitute to the use of RES-electricity in another country.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States by using cooperation

mechanisms. A convergence of support schemes might be achieved by a higher level of coordination between the existing systems, e.g. by improved guidelines for Member States. RES shall be traded across borders and separated from the physical power. In a harmonised system with tradable quotas for RES there is no need for compensation as e.g. all energy suppliers are subject to the same requirements regarding RES-share in their portfolios. A first step, that could be easily achieved, would be a EU-wide integration of RES-E into the balancing energy markets but still having different subsidy schemes for each member state.

Please explain how it could be achieved for third countries -open reply-(optional)

Including third countries will provide further opportunities to deploy RES in a more cost-efficient way. Also with regard to third countries, cross-border competition is an indispensable element to promote growth and optimize cost-efficiency. A precondition for opening up the support schemes for RES generation from third countries has to be a bilateral agreement. In order to reduce the possible partners a limitation to physical transport would be an option. Precondition for including third countries would be an adequate verification in third countries and a common definition of what technologies are renewable.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

In our point of view some support schemes are more distorting than others, if they directly impede power trade. The direct effect on competition depends on the design of the support scheme: e.g. grid access. Generally, feed in tariffs tend to be more distorting because they exclude RES-E from the power market, therefore limit liquidity and competition on power markets. Demand-side oriented systems as quota systems show definite superiority in this regard. Considering the competition in the internal market the varieties of existing support mechanisms creates distortions, impedes competition between renewable energies and between producers, and creates barriers for cross-border trade and competition. In the long run it is difficult to maintain differing national systems and at the same time promote competition on the internal market. The distortion could be reduced to some extent if renewables contributed to system stability by giving them the obligation to participate in the balancing market.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Lengthy and complex administrative procedures create uncertainty in the state of project development and create avoidable additional costs and risks. Providing a standardised and transparent process (including all provisions and criteria, forms etc.) with one point of contact and a clear timeline would mitigate this risk. Technical specifications should be harmonised and acknowledged across the EU to make use of best available technical knowledge and best practice, e.g. for the certification of offshore wind components. Education and training differ significantly between member states. Implementing harmonised Health & Safety Standards would help to set a high level of standards based on best practice from across Europe. This would help reduce working risks and create a safe working environment.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Development of harmonised technical standards for offshore wind technology and health & Safety standards via EU initiative ending up in recommendations for permitting authorities (similar to Maritime Spatial Planning project). Projects should build on industry expertise and bundle national and industrial initiatives.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

Grid connection rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

As we expect that the network development will not keep path with the changed supply side, we believe that post 2020 the number of grid congestions will increase. Therefore, grid connection might be an obstacle for renewables as well as for conventional generation.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

As renewables become a more and more substantial part of the power generation market and technology will become mature, market and grid related rules should be applied to all generation sources in a non discriminatory way. Otherwise, the "normal" wholesale market will face increasing levels of distortion. In particular the priority dispatch for renewables might cause negative economical damages to conventional plants. In our point of view renewable energy should be integrated in the wholesale market and compete with conventional energy in the long run. The necessary network development and the network access should be ensured for all generation technologies.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

Market design shall be based on competitive elements to ensure efficient solutions. Prices set by supply/demand balance signal the need for demand response, generation optimization, and investments in storages. The required infrastructure development should be identified and construction monitored within the Ten-Year Network Development Plan (TYNDPs) and facilitated by a stable regulatory framework providing a sufficient regulatory return attracting new investments in transmission and distribution grids. The better use of interconnectors by implicit auctions and intraday trading should be reached within the Target Model by 2014 by means of relevant Network Codes on Capacity Allocation and Congestion management. But market rules should be applicable to all sources of generation in the same non-discriminatory way in the long run. Instead of priority access and dispatch renewables should also actively contribute to the system stability and become a balancing responsible party in the future. In case they can provide reliable capacity they should also be able to offer balancing services to TSOs.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

Balancing concepts for renewables should be left to the market and not be mandatory allocated to one specific party. The market itself will establish solutions in which capacity might be bundled by a market party and offered as a balancing service.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Principally, E.ON believes that competitive markets deliver the most efficient solutions. The market itself will further develop solutions in which capacity might be aggregated by a market party and offered to TSOs in the reserve and balancing market. For Demand Response to take off, market participants (suppliers, Energy Service Companies (ESCOs), aggregators) must be able to develop market attractive products and services tailored to meet the requirements of different customers/customer segments within a competitive framework. Grid tariffs, which correctly reflect the constraints in the distribution system are needed to allow suppliers/ESCOs to develop offers that better reflect this cost in customer's products and services. Such tariffs would relate to the actual/predicted grid usage at given time periods or dynamically.. The interaction between DSOs and customers should entirely be facilitated through a market mechanism. The principles of Business Separation should be maintained – the activities of the DSO should not restrict, prevent or distort competition. E.ON supports a mandatory roll-out of smart meters by the responsible DSO due to economies of scale. The regulatory framework should give sufficient incentives to cover the cost for smart meters and I&C technology at the distribution level. Storages should be treated as generators and therefore e.g. be exempted for grid tariffs and allocations fees of renewables.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Due to limited budget of private owners, the uptake of renewable energies in heating and cooling will remain limited unless political and government intervention stimulates demand. Given that investment requirements are high, building standards are often low and in some cases limit the scope of available technologies, and given that almost the entire population and hence electorate will share the costs, political resistance will be high unless a pragmatic pathway is found. All political intervention only stands a chance if it is flexible, offers a maximum band-width of choice to the landlord and/or tenant, is open to all technologies and allows for short-term as well as long-term solutions corresponding to the preferences and capacities of the individual consumer.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

No pathway should be favoured or precluded and take-up should be driven by cost as well as other factors such as ease of installation. However as the power system is decarbonised, heating systems which consume low carbon power, including heat pumps, may be likely to become relatively more attractive (depending on fuel and carbon prices).

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Starting from the adoption of a basic level of energy efficiency measures into homes, renewables in heating and cooling in combination with high efficient heating and cooling appliances are often the best way to realise climate friendly and sustainable management of residential and commercial buildings. Nevertheless, above a certain standard of elementary measures (such as double-glazed windows), energy efficiency and renewable energies interact strongly and may become substitutable competitors: Within the bulk segment of existing buildings, insulation and other measures to reduce energy consumption will become inefficient both ecologically and economically, and increased use of renewable energies will be preferable, such as bio-methane in condensing boilers, bio-methane based micro-CHP, solar-thermal or geo-thermal heating systems, as well as electricity-based heating. No general statement can and should be made which option is preferable in all cases, since individual standards and conditions in housing differ widely, and, moreover, all preferences would distort the technological development in what is still a juvenile market.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

With regard to battery electric vehicles (BEV) that are fuelled by electricity from RES, “costs” and “pace of technology development” are they key obstacles. Why? We have a lot of fluctuating wind and solar energy that needs to be stored in more devices such as BEV. Also, charging infrastructure is ready, available and is economic in private homes, offices and warehouses. Unlike infrastructure for gas driven cars that had to be built from scratch, electricity outlets are available everywhere. But most e-cars e.g. in the German market are not economic compared to conventional fuel cars. Main factor here is the cost of the battery and the slow pace of technology development (battery lifetime, mass production of cars). Plus, if consumers are willing to pay more for an e-car, they do not receive enough added value. The lack of one single common charging standard is also hindering development. As long as both concepts – ChaDeMo and Combo – are competing against each other – the charging infrastructure can react but it is more costly to adapt it to two systems. With regard to biofuels, we think that the public discussion about “fuel or food” limits the exploitation of biofuels in countries – especially in those that are densely populated.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail

G.2.1. Please explain your answer -open reply-(optional)

The road sector is most promising because the substitution of oil by electricity from RES has a high impact on CO2 reduction. Road for goods has a relatively high share of fleet vehicles which can be addressed more easily than individual consumer traffic. A fleet such as postal services is very well suited to use BEVs (Battery electric vehicles). It has reliable timetables displaying when parts of the fleet are parked where. So increasing the share of BEV in fleets for goods and services would quickly involve a high number of vehicles. The common charging infrastructure would be supplied by renewables and can be a reliable storage source at night. Rail is a rather homogenous sector with a prevalence of electricity as a fuel where the share of renewables can be increased in power generation.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

Most important is a consistent application, a reliable framework and coverage of all biomass. Countries exporting to EU should have a reliable respective legislation in place. Criteria must be verified in a credible way.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

No, so far no Joint Projects are in place in spite of the some interested Member States and the chance to reduce costs. Additional to a suitable institutional setting, cooperation mechanisms must be accompanied by arrangements for the mutual recognition of transfers of internationally compatible renewable production certificates and to set up a secure registry system. A next step could be harmonising and later merging of existing national schemes for the issuance and redemption of renewable energy-related certificates, whether based on voluntary underwriting and purchase of Guarantees of Origins, or on obligatory certificated supply quotas.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation should focus on geographical potentials and therefore efficiency gains. The focus of partnerships with third countries should be on neighbouring regions, possibly aligned to physical energy flows and existing agreements on partnerships on energy or related issues.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

No, giving priority to electricity networks in some Member States means at the same time delaying investments in others. Therefore all investments shall be considered in future planning of grid extension with regard to urgency not origin.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Renewables imports should be enabled to contribute to the EU's target fulfillment. Especially with regard to Desertec we welcome the energy partnership between the EU and Mena Countries. Generally we support a market design, which delivers investment at lowest cost no matter where

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Generally, E.ON supports greater interconnection giving better access to different sources of generation, more efficient use of existing generation and increased security of supply, provided the investment has a clear economic justification. The NSCOGI should be further fostered, but also be extended to include developers of offshore wind projects to include their issues and knowledge. The benefit will be a more efficient grid extension (e.g. to neighbouring country when grid connection is shorter that way). The experience could also be applied on a more jointly planning of interconnectors and and main onshore transmission lines.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

The competitiveness of all technologies depends on the long performance and the cost (CAPEX and OPEX). Renewable technologies (e.g. solar and wind) have high CAPEX and should thus have low operating costs in order to be cost competitive. A strong focus should therefore be to minimize the operating costs and driving up the availability performance. This is especially important for off-shore units where unplanned maintenance can be extremely costly. The life cycle approach is therefore extremely important. A very large challenge for renewable energy is the integration into an energy system which is built based on a mono-directional and stable flow of energy. Special research focus should therefore be directed towards technologies that easily can be integrated in the new energy system and also on ways of interconnecting and stabilising different energy systems (e.g. power-to-gas, energy storage, thermal storage etc.). The role of e-mobility in the energy system (as dispatch-able energy and energy storage) remains to be researched and clarified. Both solar and wind technologies have a large area demand and are therefore heavily dependant on a smooth permitting process and public acceptance.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Support of pilot projects, support of new concepts (e.g. offshore foundations, new wind turbine and wind farm concepts)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Technologies in a future energy system will have extremely high flexibility demand and the need for technologies which can rapidly store (Batteries, Power-to-gas etc) large amounts of energy or dispatch large amounts (fuel cells, gas turbines etc) will be more important. Many industrial technologies and energy technologies produce large amounts of waste heat and this is to a very large extent wasted. Support for technologies with a high total efficiency (heat + electricity) should be considered and innovative uses for waste heat utilisation (e.g. algae cultivation) should be encouraged. Hybrid technologies i.e. technologies that combine fossil fuel technologies with renewable technologies (e.g. hybrids of natural gas turbines and biomass, natural gas and solar etc.) may play an important role. Adaptation of present technologies to future demands is sometimes a neglected but very cost efficient area. Examples can be adaptation of present coal fired plants to future flexibility demands. It may be more cost efficient to develop more efficient start up and turn down techniques than to reinvest in new production plants with increased load and turn down flexibility.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Financial R&D support has been the traditional way of providing support to the renewable energies sector. This have in many cases been successful but in some cases not. The drawback of the present system is that it sometimes does not provide support for the full innovation chain which means that substantial efforts are committed to research and development at universities but the final implementation and dissemination sometimes is delayed or even cancelled due to lack of support for bridging the gap between R&D and commercialisation.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes, in principle technology development should be possible to predict both in effect and time in order to coordinate the sometimes parallel business development (introduction of the new technology on the market) with the technology development.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

EUROPIA - European Petroleum Industry Association

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

No, targets for renewable energy sources are unnecessary

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

EUROPIA's response to this questionnaire is focused in general policy and biofuels, so we do not offer answers to some of the questions. No, targets for renewables are unnecessary. Increase in renewables should be based on cost-effectiveness and carbon price. If we need to track progress, then they should only be indicative milestones on an EU-wide basis. Costs and competitiveness of the rest of the industry and the European economy, which has to absorb these costs, should be taken into account. Therefore, a framework for consistent and predictable CO2 abatement cost across the entire economy should be promoted which means that costs to society should be minimized, proper investment/divestment should be enabled and progressive technology introduction should be facilitated.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

Enhanced focus on R&D to bring down the costs of renewables

-multiple choices reply-(optional)	technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

Regulators should work with industry to create stable, long-term policy frameworks for renewables to increase investor confidence. There is also a need to fund and support R&D. EUROPIA recognises that policy makers support the development of a diverse portfolio of technology options. However, policy-makers should resist the temptation to pick winners but rather ensure that there is a level playing field for technologies to compete on their merits. However, a balance also needs to be kept between the availability of renewable energy and the technical ability of consumers to use that energy. For instance, in the transport sector higher renewable energy blends of today's biofuels require adaption of vehicle technology and logistic infrastructure. Regarding potential indirect land use change effects, clarity is required before any new policy is adopted. Measures must support the single market so that renewable resources are utilised where they are most cost effective. Also support cooperation with third countries for the same reasons.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

There is a need for sustained funding and support mechanisms only for R&D (see our previous answer). All energy sources must ultimately compete on their merits – technical and economic – so subsidies for deployment and market growth must be very limited.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Phase out support schemes over time (please specify for which technologies if applicable)
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Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

See B1.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

No.

B.6. How do you see the relation between	
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support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, all support schemes distort competition to a similar extent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Different implementation of the Renewable Energy Directive into national laws can cause uncertainties for pan-EU energy market. For the transport sector, the incorporation of biofuels in the market should be orderly and always supported by technical specifications that take into account the compatibility of vehicles and technologies of the new engine designs.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you

consider most important to increase the flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices  
reply-(optional)

Price risk – producers of renewable energy should operate without any aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices  
reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice  
reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices  
reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Cost of renewable energy is one of the main barriers. The lack of energy tax harmonization including tax based on energy content and a CO2 component equivalent to ETS market price is a further barrier. Renewable energy should be able to compete against other energy sources on a level playing field.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices  
reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

All are welcome provided they are cost effective including a CO2 price.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

All are welcome provided they are cost effective including a CO2 price.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices  
reply-(optional)

Costs - Pace of technology development - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

Main barriers are the capability to meet technology requirements and cost-effectiveness of renewable energy in transport. Also a level playing field and proper evaluation of sustainability should be ensured.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices

Road for passengers - Road for goods - Rail

reply-(optional)

### G.2.1. Please explain your answer -open reply-(optional)

There are opportunities in the rail sector. In the road sector, the share can be increased on condition that biofuels become cost-effective and sustainable. To a certain extent, and provided that technological and cost-effectiveness problems are overcome, aviation and marine shipping could also increase their utilization of renewables. It should also be ensured that the electricity produced for electric vehicles is generated from renewable and sustainable sources.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

Biomass must be: a) cost-effective, b) sustainable and c) life-cycle greenhouse gas emissions must remain low. As science develops, also the criteria for evaluating the above said elements must be regularly updated.

### H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

The biofuels mandates that are different, the different waste/residues definitions, the different certification schemes and GHG measurement all contribute to market barrier and weaken the establishment of an EU wide harmonization. It is essential that common rules at European level are adopted for the implementation of any further biofuels legislation and common European wide fuel specification is supported: the wide diversity of approaches taken by Member States for the existing Directive has already created challenges to the single integrated European market for fuels which has for many years been a strong advantage for EU consumers and contributed to security of supply. Any further legislation should not allow further breakup of the market, and ideally seek to address the difficulties created by the current REN Directive.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation should be based on free markets and abolition of trade barriers, taking into account sustainability criteria including indirect effects.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster

cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Technology performance and cost competitiveness are the key challenges.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Technology advancement and innovation are keys to the changes required to reduce CO2 emissions on a large scale. Future technologies need to be developed.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

All technologies (For example: Hydrogen, fossil+ CCS, next generation biofuels, etc.) that are technically feasible and cost-effective should be put in a position to compete on a level playing field. An assessment against a set of precise criteria needs a set of precise criteria needs to be made before any public-private partnership could be envisaged. A distinction needs to be made between where "research money" should be allocated and where we recommend to engage in "industrial initiatives"/ "public-private partnerships."

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Not successful

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain

deadline?

-open reply-(optional)

Yes. Funding should be linked to achieving technical and performance (incl. costs) targets within a well defined time-frame. Also, existing measures have not been successful because biofuels raise several concerns such as impact on food prices and availability, GHG emissions from direct and indirect land use change, adverse effects on biodiversity and social factors including labour prices.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Alstom

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Other (please specify)

Which other country? -open reply-(optional)

Industrial representation in many EU countries

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate - Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

To maintain EU's increasingly challenged industrial leadership in renewable energy technologies, we need a strong binding renewable energy target for 2030 if Europe is to stay ahead of the game. Mandatory targets are the most reliable way of increasing the share of renewables in the energy mix. Due to the long investment cycles in the power sector, this target must be in place within the mandate of the current European Commission and Parliament – by the end of 2014. Setting sectoral targets helps to advance low carbon activities and technologies in areas that are more critical for climate change and environment protection. Clear objectives for a renewable energy target, also beyond 2020 are necessary to create a more reliable framework for investment. An up-grade of the Co2 reduction target in the short and medium term with clear milestones is crucial for achieving the EU's climate goals and gives a strong signal for public and private investment in technologies as well as research. It must be made clear that the EU is committed to stay on the trajectory for the 80-95% Co2 reduction target in 2050. The system must be flexible enough to adjust the amount of emission allowances available for industry according to an increased emissions reduction target, the improved energy saving obtained by other measures than the ETS itself, as well as the effects of the recession leaving too many permits in circulation.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting,

<p>-multiple choices reply-(optional)</p>	<p>improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

a) more R&D on future technologies and use of existing technologies at best sites in the EU; b) Changes to the grid and network infrastructure to allow flexibility for high levels of renewable generation; c) Political leadership, mandatory measures/targets and accelerated action are necessary; d) GHG emission reduction targets beyond 2020 must be supported by appropriate legislation and policy for renewables

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support remains necessary, for R and D and for deployment of the new technologies. Some RES, such as marine/ocean energy are not very mature, yet but can contribute significantly to the energy mix in the future. Financial risk support for their development will remain necessary beyond 2020. Important and intelligent investments in power grids and power grid storage are required. Conventional power technologies have received or still receive support (e.g. in the form of subsidised R&D, absence of consideration of external costs) that influences market price conditions.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects</p>
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<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with EU-wide benchmark values for support level per technology</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>N/A</p>
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

- The implementation of an efficient and sustainable energy management system linking the different renewable energy technologies is crucial for reducing emissions and for establishing a more climate friendly energy system. The most important technologies will be the following: – Large and small hydropower, geothermal, wind, solar and ocean energy; – Energy storage technologies: pumped storage hydro power plants; – Smart solutions: Smart Grid, Smart Meter; Grid: Working towards a EU super grid; electrification of surface transport - Cross-border projects are important, financial support schemes necessary - Consistency with national energy roadmaps and strategies where these are already clearly defined - Incentive schemes: incentive schemes can take various forms – from quantitative targets (on various levels) to fixed price schemes, administrative reform and R&D support. All of these have their specific benefits and costs; moreover there is a link to the degree of maturity of the individual technology and the degree of exposure to market mechanisms that needs to be considered - If a Member State is willing and able to set up support schemes for RES it should not be hindered in doing

so. Some technologies are more easily developed in certain member states than in others, (e.g. ocean energy), there needs to be the possibility for national support schemes for these technologies

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)
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C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

- Permitting and cross-border cooperation must become more efficient and transparent in order to shorten the currently sometimes decade-long waiting times for interconnectors - Lack of understanding and appreciation of hydro bulk storage and the ancillary services it offers. Hydro pump storage can act as a compensator of intermittent renewables - There should be a unified EU grid code

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The lack of recognition for grid stability capabilities of pump storage is an obstacle. Network issues: infrastructure is not yet prepared for the scale of deployment of renewable energy envisaged for 2020 and beyond, specifically in the field of electricity. Grid extension is crucial. The existing rules do not take into account the technical and economic potential of energy storage. There should be revision of the current situation taking into account the capabilities of energy storage: - Grid connection rules: energy storage is either considered as a load or a generator. Both are technically wrong and prohibit an effective use of energy storage by grid operators - Cost-sharing rules: should take into account specific capabilities of energy storage, thus its ability to provide added value simultaneously to different stakeholders along the value chain. No rules exist today on operation of a storage device by one of the stakeholders (for example DSO), enabling grid services to be valued by another stakeholder (for example TSO) - Balancing rules: need to take into account increasing importance and ability of balancing at local level (at level of distribution grids) - Curtailment regime: rules of

curtailment can be totally changed when taking into account energy storage. Typically grid overload or other contingency situations can be limited if generators are coupled with ancillary services capable storage systems.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment - Other (please specify)

Please specify which other rules -open reply-(optional)

To pay ancillary services even for small scheme, when an asset is able to support grid stability and balancing. Network evolution at distribution level.

D.2.1. Please explain why -open reply-(optional)

It is necessary to re-assess the grid connection rules in the regulatory framework taking into account current technology developments at both, the level of generation and the grid level. Technical solutions, including but not limited to energy storage, open new ways to effectively integrate increased amounts of (intermittent) renewable energies. They require new modes of regulation between the different stakeholders (production, transportation, distribution, sales, consumption...) going beyond the current scheme of either "grid extension" or "priority access", both of them being not sufficient to reach the set targets. Regulation can refer to: - Conditions of connecting generators and of injecting energy to the grid - Investment of grid operators in technologies to manage renewable integration, including smart infrastructures, grid extensions, storage, etc. Most importantly, regulation should remove any barrier of current stakeholders to invest into technology innovation and to operate and take advantage of such innovation.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase flexible back-up capacity (capacity payments ...) - Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

a) Strengthen and develop grid infrastructure to meet variations in demand and reduce grid losses and work towards a smart grid system that can accommodate increases in small-scale decentralized renewable energy supply; b) Implement pilot projects that demonstrate the potential of newly emerging green technologies (business models in model regions, cooperating with the local public authorities, economy and society, including e-mobility, smart grid, etc.)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Electricity markets should evolve into energy services markets, earning revenues from more than just electricity
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Lack of infrastructure
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail
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### G.2.1. Please explain your answer -open reply-(optional)

Rail should be more widely electrified in Europe. Rail electrical networks need to be integrated into the overall system.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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### H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	No (please specify how they should be amended or which elements added)
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Please specify how they should be amended or which elements added

-open reply-(optional)

The development of low-emission technologies should be enforced by improving the technology policies by an intense cooperation

between politics and economy. A framework for low-carbon technologies has to be built on an international level: equal promotion conditions (especially for innovative, renewable technologies) and useful trading and export conditions would lead to a growing market of low-carbon technologies. The technology portfolio should concentrate on sectors with high reduction potentials for emissions.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Linking the EU to Norway (and general interconnecting the North Sea region), especially for off-shore and hydro power generation and to Northern Africa will be beneficial. Security of energy supply within the EU should however also remain a priority.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Linking the EU to Norway (and general interconnecting the North Sea region), especially for off-shore and hydro power generation and to Northern Africa will be beneficial. Security of energy supply within the EU should however also remain a priority.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Supergrids, bulk storage and intelligent grids will be necessary to absorb the energy from the diverse sources from Mediterranean countries.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

This specific cooperation should be further promoted. A testing site for energy storage should be added in combination with large scale wind farms from the North Sea to e.g. the Southern countries, thus expanding the solar business.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

System integration - Industrial manufacturing and supply chain - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

All items mentioned are challenges to be addressed. - Energy storage is necessary for system integration. However, it needs to be further enhanced and become cost-competitive with other technologies - Need to reduce the cost of far offshore wind (very large turbines, floating support structures, connection technologies)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

- Better grid integration features of fluctuating renewables by adding storage. - Upstream (supply side) energy efficiency, for example at power plants, can deliver carbon reductions with much greater certainty. - Integrate hydro power and geothermal as well as ocean energy into the SET Plan - Manage all renewables as a part of the solution, do not favour one over the other

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Focus should be on energy storage and ocean energy Investment in hydro technology should become a priority. Hydro offers ancillary services, bulk storage and the potential of rehabilitation of existing plants is growing. A rehab programme for installed hydro plants could increase the available power without any environmental draw back but increased efficiency.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Technology development should be associated to deliverables. However, one should be careful in establishing deadlines. The time frame for demonstrators can be up to 10 years. The immaturity of certain energy storage technologies leads to high risk investments that cannot be simply coupled with specific dates.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Transport & Environment, nusa.urbancic@transportenvironment.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

We support an ambitious renewable target set at the EU level combined with a drive for energy efficiency. However, we want the structure of targets to be drastically changed for two reasons. The current setup lumps all renewables in one target, and sets one specific sectoral target (transport). This is leading to the situation that stronger sustainability criteria for bioenergy (including i.e. ILUC from biofuels) are seen as a barrier to hitting 2020 targets, thereby threatening to derail the entire renewables policy, including solar and wind. Additionally, the current setup leads to bioenergy often crowding out other renewables because often it is the (economically and politically) 'easiest' compliance option to reach renewables targets. Given the rapidly evolving science and practice surrounding bioenergy sustainability, this interdependence between bioenergy and other renewables (or between 'carbon-based' and 'carbon free' renewables) needs to be ended as soon as possible. One straightforward way of achieving this is by decoupling policies for bioenergy and other renewables. Therefore we suggest that post 2020 strategy for renewable energy should consist of two laws instead of one: a specific directive on bioenergy that would include targets, sustainability criteria and carbon accounting rules, and a target for non-bioenergy renewables. That way bioenergy policy could be reviewed without changing targets of support for wind, solar, and other carbon-free renewables.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

We suggest two separate laws: one on bioenergy (targets, criteria, carbon accounting), one on non-bioenergy renewables. The zero rating for bioenergy should also be ended in the ETS and in the carbon part of the energy taxation directive. We insist that the energy target for transport (currently 10% for 2020) should be scrapped so that fuels policy in transport is governed by the performance-based, technology-neutral Fuel Quality Directive. This would drive innovation towards the fuels that deliver the most carbon savings at the lowest cost and would also put an end to the confusing situation, where two directives govern the same issue. The EU should also abolish subsidies to non-renewables and ensure that subsidies go only to renewables that perform better than fossil fuels, for example by incorporating ILUC factors in the GHG calculation of biofuels. The EU must also internalise external costs of fossil fuels by introducing robust carbon taxation, strengthen the ETS and pricing. Market rules and grid access and development should remove the historical bias that favours centralised and inflexible power generation. The EU should try to ensure that electric cars run on renewable energy, so that electric car sales increase demand for renewable instead of fossil electricity. A strong regulatory framework for energy efficiency, including ambitious and legally binding targets, can facilitate the uptake of renewable energy and reduce the cost of energy supply.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater

For selected technologies/circumstances/markets (please specify)

penetration? -single choice reply-(optional)

Please specify which technologies/circumstances/markets -open reply-(optional)

As transport NGOs we are primarily concerned about policies for renewables in transport. We oppose subsidies to biofuels; if governments set biofuel blending targets, they should do so by mandates, so that the motorists and not the general taxpayer will foot the bill. Taxation of liquid transport fuels is the first-best tool to improve the competitiveness of renewable electricity as a transport fuel. The EU should also put in place smart metering of electricity consumption in electric cars, in order to maintain taxation for road transport users and to enable potential tax reductions for the use of renewable electricity. For other policies to promote renewable electricity we refer to responses from other environmental NGOs.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects

Please specify how to make support schemes more market-oriented -open reply-(optional)

Some convergence of national support schemes would encourage investment where the resource is best and where suitable sites are available, rather than where the subsidies are most attractive. That means more output per solar panel or wind turbines, which means lower overall investment. This is more cost-effective, and with adequate strategic planning could also reduce ecological impacts overall. However Member States must be able to provide adequate support to stimulate investments in specific sectors, given their local circumstances. It is important to avoid a situation where all investment is concentrated in places where the resource (sunshine, wind) is best. This would increase cumulative environmental impacts and the necessity for grid expansion. Convergence should also ensure that national support schemes are linked to the same (interpretation of the) high standards of sustainability and actually deliver the emission reductions that the policy is meant to deliver. Usually Feed-in Tariffs have proven most effective – they give investors greatest confidence. There should be a requirement to move to FiTs unless Member States can demonstrate that other systems (e.g. quotas) are working well. However, while the level of support should converge, the structure of financial support schemes should be retained wherever they are working well to stimulate investment – it is better not to create instability and uncertainty by changing successful support schemes.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Despite the different nature of the sector, important overlaps have to be considered. Biomass is a fuel that can be used in all different sectors, and since the available sustainable biomass resources are limited. Sectoral targets that we have at the moment are driving the use of unsustainable biofuels in the transport sector to meet the target. The guiding principle for the use of biomass should be efficiency, sustainability and GHG savings on the 20 year time scale. Overlaps also exist, as electricity will increasingly be required for electric vehicles in the transport sector, and to some extent also for geothermal heating. Support policies should encourage the mutual support of these sectors, e.g. by encouraging smart charging and smart metering of electric vehicles to fulfil a balancing function for renewable electricity.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Grid system operation and arrangements are currently still guided by the characteristics of a thermal-power based and centralised electricity system. Grid connection rules and grid codes have been developed to accommodate the requirements and abilities of fossil-fuel based and nuclear power stations. Renewables have different qualities and require different rules. Cost-sharing rules are often intransparent and responsibilities are not always clear. In some cases, cost-sharing rules are inappropriate if renewable energy suppliers have to bear the cost for grid system upgrades. Balancing rules do not sufficiently reflect the capabilities and needs of renewable energy technologies. A stronger focus on intra-day markets and gate closure times closer to real time would improve the integration of renewables. Also, renewable suppliers should be reimbursed for specific system services (ancillary services) they provide. Finally, curtailment decisions are often intransparent and can lead to uncertainty for renewable energy investors, especially if rules for reimbursement are insufficient.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment - Other (please specify)
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Please specify which other rules -open reply-(optional)

The power grid is a natural monopoly. In the past, the grid system has been developed around centralised power stations, while costs have been socialised. Also today, grid operators have to accommodate the (changing) power supply structure to enable the integration of renewable energy sources. Today's power markets are not fully competitive, and market rules have been defined on the basis of fossil

fuel- and nuclear power plants. As long as the electricity system and its rules are not sufficiently flexible to allow for the optimal integration of renewable energy sources, priority grid access and dispatch, as well as obligatory network developments are going to be necessary.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

An increased exposure to price risk for renewables should be implemented in particular for dispatchable renewable energy sources like biomass. But also other renewable energy suppliers, depending on the level of a technology's maturity, should be encouraged to adjust their power output to consumer demand if possible. At the same time, market rules should be adapted to increase the flexibility of the power system. As renewable energy technologies mature, suppliers should increasingly contribute to balancing the electricity system, e.g. through improved predictability and the technology-specific provision of ancillary services.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable

Costs/lack of financial support - Building regulations etc. - Lack of

energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	suitable information - Lack of capacity (installers, other)
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal
<p>F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)</p>	
<p>The continued high energy consumption of buildings acts as a barrier to an efficient and fully renewable energy based heat supply. As a first priority, stronger energy efficiency standards and refurbishment programmes should be enforced for both new and existing buildings to promote the combined use of energy efficiency and renewable technologies. Stronger uptake of renewables in heating will in many cases require greater use of wood, and existing 2020 renewable energy targets will begin to push the limits of feasible sustainable wood supply. Effective sustainability standards are urgently needed, alongside targeted measures to increase wood fuel supplies from well-managed forests in the EU. In addition, much of the potential for sustainable and low carbon bioenergy is in waste streams such as: sewage, food waste, agricultural waste and post consumption wood. However, most of those potentially sustainable sources of biomass are dispersed and hence difficult and expensive to bring into the energy market and it won't be possible to tap into them without significant public policy intervention. Some useful policy interventions could be in the improvement and better reinforcement of the waste legislation in order to ensure a full recovery of useful biomass, and public investments in collection and processing.</p>	
<h2>G. RENEWABLES IN TRANSPORT</h2>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Pace of technology development - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels - Other (please specify)
<p>Please specify which other barriers -open reply-(optional)</p>	
<p>One of the main barriers against a stronger uptake of renewables in the transport sector is the availability and the sustainability of biofuels. Current experience with the 10% transport target show that most of it will be met with the lowest cost biofuels, which lead to land use change, increased emissions and wider environmental and social concerns (i.e. water and chemical use). The debate over the inclusion of indirect land use change (ILUC) in the GHG emissions of biofuels has also resulted in the drying of investments in the sector. The experience with volume targets have shown that the emissions savings from these are questionable and that only the cheapest biofuels are promoted by member states, regardless of their sustainability. Therefore volume targets for renewable in transport should be scrapped and replaced by GHG based targets, while ensuring the correct carbon accounting for both fossil fuels and biofuels, including direct and indirect land use change. The Fuel Quality Directive should be one of the key tools for this purpose – also post 2020. Another key tool should be increasing efficiency and demand management by internalising external costs of transport. Electrification is already a workable solution for rail and passenger transport and must be further developed and incentivized, especially promoting the uptake of green electricity. Biofuels can be considered only when they reduce emissions and do not lead to other negative environmental and social</p>	
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail
<p>G.2.1. Please explain your answer -open reply-(optional)</p>	
<p>The reduction of emissions from transport should first and foremost consist of efficiency measures and of pricing signals that incorporate external costs and lead to demand reduction. Aviation and shipping are areas where internalisation is very urgent too, and should not be forgotten. Promotion of alternative transport fuels and infrastructure should be based on their true carbon footprint (including ILUC in the case of biofuels) and not on names. As science shows some biofuels are worse for the climate than fossil fuels and they should not be promoted just because they are considered as renewable. Also biofuels should not be promoted just because some sectors cannot use other alternative fuels. Promotion of biofuels should be based on correct carbon accounting and be part of GHG footprint based targets, such as the ones in the Fuel Quality Directive. In road and rail transport, electrification seems the most viable low carbon solution in the</p>	

mid and long term perspective. Electrifying transport and building infrastructure has to go hand in hand with the uptake of renewables in the grid. This will lead to truly sustainable and low carbon transport. The best way to promote the uptake of electric cars are ambitious fuel efficiency standards, such as the current 95 g CO<sub>2</sub>/km in the legislation and further ambitious target of 70 g by 2025.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

Correct carbon accounting, including emissions from indirect land use change, should be the basis of promotion and the key sustainability criteria for all biofuels. The science has evolved in the last five years and there is a scientific consensus emerging that the solution are ILUC factors. These are not a penalty, but a true incentive to promote low carbon investments and low iLUC biofuels, which are usually more expensive. Correct carbon accounting should also be translated into other EU policies (ETS, energy taxation, etc) and should also apply for fossil fuels. Given the urgency to cut emissions in the short-term, carbon debt from biomass should also be included in the LCA so that that we are not giving equal weight to savings that will only be achieved after many decades. All forms of biomass (fuel, liquid, solid and gaseous) should be subject to sustainability criteria. As we are moving towards a greener economy, we should be aware that the competition for biomaterials and biomass harvesting and the growing pressure on ecosystems. Policies should in the first place put more emphasis on the hierarchy of uses.

H.1.1. Please explain -open reply-(optional)

For sustainability and public acceptability reasons, all forms of renewable energy must cut carbon emissions and also be sustainable in terms of short-term ecological impacts on the ground. Biofuels need additional criteria, most notably to include ILUC, to ensure public money is no longer used to promote renewables that increase emissions and damage the environment.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Assuming 'cooperation' means more than trading in green credentials, we support European initiatives to stimulate renewable energy production around the world. The EU should actively encourage countries all over the world to decarbonise their energy systems, and there is significant potential for some countries to export renewable electricity into the EU and to third countries. However great care is needed to ensure this really drives decarbonisation and benefits the host countries. Imports must not substitute for EU efforts, nor result in the EU exporting ecological impacts and carbon emissions to third countries. The cooperation mechanisms foreseen in Renewable Energy Directive allow for a wide range of options and allow for sufficient flexibility. Given the level of the 2020 renewables targets, however, most Member States do not see a need to make use of the mechanisms until 2020. With higher renewable energy targets beyond 2020, Member States can be expected to be more inclined to make further use of the cooperation mechanisms. However, the cost-efficiency realisation of Europe's renewable energy potential is not and cannot be driven by a focus on the renewable resources conditions at specific sites only. An appropriate regional spread of renewable energy generation is desirable to facilitate the grid integration of renewables, enable the balancing of supplies and secure the political and public acceptability of renewable energy development.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)	No (explain why)
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Please explain why -open reply-(optional)

Electricity network investments should generally be targeted towards integrating renewable energy technologies and making the power system more efficient. As a priority, grids should be upgraded to enable the integration of renewable energy supplies within in the EU. While renewable energy imports from North Africa may have a role to play in the future, this will rely on the completion of a strong electricity grid system inside the EU as a precondition and logical first step.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Agreements between the EU and third countries
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

The EU should focus first on becoming a world leader in clean, sustainable renewable energy production, aiming to meet or exceed its own needs domestically. Stimulating investments outside the EU that contribute to additional cuts in global emissions and benefit host countries and protect their natural environments should be the priority.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	Technology performance and cost-competitiveness - System integration - Other (please specify)
---	---

Please specify which other key challenges  
-open reply-(optional)

For the sake of an effective European climate policy, serious research and support for sustainable forms of technology that bring down emissions with the lowest possible impact on the environment, is crucial. Sustainability consideration should be central to the SET plan. Low carbon technologies should be stimulated in their development and wide scale deployment if their overall sustainability can be ensured. Two issues should be looked at: (i) direct land use impacts - the avoidance of land use impact or the potential to limit this land use impact through proper planning should be put forward; (ii) GHG accounting: further research is needed on the full carbon cycle of renewables - minimizing indirect land use change and carbon debt should be key areas of research.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The EU should be a frontrunner on the full understanding of the life cycle of renewable energy forms. Therefore, it should develop policies that properly incorporate the full carbon accounting for all forms of energy and finance research into technologies and management practices that avoid negative impacts. Specific attention should be given to direct and indirect land use change and carbon debt of different bioenergy forms.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

T&E favours technologies that deliver decarbonisation with the lowest possible impacts on the environment. These should be the main criteria to determine which additional measures and/or instruments should be developed.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

N/A

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Assistance should be directed in an intelligent way to enable energy system-wide decarbonisation to 2050, while at the same time ensuring that subsidies for fossil fuels and dirty energies are phased out and that external costs are incorporated in the prices paid by the users of energy and transport. It will need to be tailored to the specific stage of development of the technologies in question, based on assessment of future potential as well as short term delivery and contribution to decarbonisation.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Pia Oesch, Finnish Energy Industries, pia.oesch@energia.fi

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Finland

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy

No, targets for renewable energy sources are unnecessary

efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

After 2020, renewables should progress towards being fully integrated in the market, with a strong carbon target implemented over the entire energy system. The EU ETS is the major policy instrument on decarbonisation at the EU level, in contrast to EU policies executed through national approaches on RES and energy efficiency. In a post-2020 perspective, ETS should be used to allow those policies to converge. It would allow for achieving a consistent and economically efficient approach to decarbonisation, while facilitating affordability and security of supply.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will continue to be necessary to support specific emerging renewable technologies post 2020, but only in the form of support to Research, Development & Deployment funds and only for those technologies which have not yet reached maturity.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-

(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

The development of the support schemes should take place in line with the evolution of the internal energy market. If market based support schemes (like green certificate scheme) are used, there is no need to decide on when to phase out the subsidy, since the market prices will go to zero when investments in RES are profitable without support.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Post-2020 all RES technologies should be supported only by R&D&D funds or at least the support schemes should be market-oriented.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

National support schemes lead easily to support competition between EU countries which will effectively prevent RES generation investments to locate in the most optimal way in Europe, hence leading to sub-optimisation and cost-inefficiency and finally to higher overall costs to the society. In the long term, the support mechanisms should be phased out.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

In principle there is no difference between the mentioned sectors. RES-technologies will develop in all of the mentioned sectors, and strong inputs for R&D are needed. However electricity market as a truly cross-border market is more vulnerable to sector-specific and national policy-interventions.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Some support schemes are more compatible with the well-functioning of market dynamics than others. Regardless of the scheme applied, it is essential that RES generators contribute to balancing and grid connection costs. It should also be profitable to optimise the RES generation based on the actual prices in the electricity market, which can be achieved by premium and certificate support models.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

In Finland main reason for delays in investments in RES generation have been complex administrative procedures. In a sense this has been understandable, as RES-plants are of new type and their effect on environment has been partly unknown. This is an issue to be solved on national level. However, this underlines the need for investments in R&D and avoiding support schemes for specific technologies.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

All these relevant issues need to be addressed way before 2020. The gravity differs in different member states. Forthcoming network code for generation connection will bring European rules for network connections. As for balancing the Finnish system, where every generator can in principle offer balancing power, could be used as an example.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

This is no change to present situation. Already today network operators have obligation to connect generators and loads to network and to develop the network. However, grid development may take more time than generation investments. Time-consuming administrative processes pose challenge also for connecting RES-generation into the network.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

The power system flexibility can be increased by both market integration and technological development. New smart grid technologies and hourly pricing options extend demand response possibilities. Infrastructure investments and market coupling enable efficient trading between different market regions for smoothening RES generation variations and backup generation ramping requirements. Market prices must be always allowed to reflect the hourly supply-demand balance, affected by RES variability, in order to give right signals for flexible and back-up capacity, as well as for demand response. Especially biomass-based RES generation, in addition to renewable hydropower, can be dispatched based on the market situation and is thus a suitable source for offering balancing services to TSOs. Intermittent wind and solar power can also offer balancing services especially for surplus generation situations. As additional measures, adequate ancillary services (control reserves) must be contracted by the TSOs for securing the power system stability during the operational hour, and the balancing markets need to be integrated in order to efficiently utilise all the European balancing resources.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

All generation forms should be handled equally in balancing.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward

flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Current wholesale power market arrangements, strengthened by increased market integration and market coupling are adequate in rewarding flexibility. The regulatory framework needs to ensure that the European-wide market coupling of the day-ahead and intraday market, as well as balancing market integration are realised quickly, and that there are no artificial price caps or floors limiting the flexibility potentials in both generation and power demand. In order to enhance electricity markets' ability to deliver generation adequacy, governments and regulators must first of all allow energy-only markets to function properly. To this end, distortions which hinder the balance of demand and supply must be removed. Such distortions include regulated end-user prices, restrictions on plant operations, price caps and floors, and other regulatory or administrative measures which unnecessarily hinder wholesale market outcomes. The current competitive wholesale market model should be used and further developed by implementing European-wide market coupling, enhancing demand-side market participation, enabling the sales of RES generation to the normal market and creating more gas market flexibility. The electricity retail market flexibility can be increased through the smart grid development enabling hourly pricing options for consumers, accompanied by intelligent solutions for steering the use of electricity.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing is appropriate

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Drifting regulation by incoherent and overlapping steering mechanisms (taxes, subsidies, etc.). There should be long-term harmonized EU-wide schemes that would provide level playing field both geographically and between different types of energies (especially incentives for RES heat compared with those for RES electricity). The heating and cooling systems outside EU ETS should meet the CO2-costs as well.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Solar thermal - Electrification together with higher share of renewables in electricity production

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Both renewable and energy efficiency are equal tools to achieve low carbon heating and cooling. Target can be reached both ways but costs between alternatives may vary a lot. Therefore, there should not be support schemes or other regulation that prevents to select optimal local combination between renewable and efficiency. However, emission trading system without additional regulation would provide optimal combination between RES and energy efficiency.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of infrastructure - Lack of awareness

G.2. What sectors of transport do you consider to be the most promising for further increasing

Road for passengers - Rail

the share of renewable energy? -multiple choices

reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

About the main barriers: Cost of batteries and taxes are high. The costs of new low-carbon technology vehicles are high. However many low-carbon fuels on the other hand are very competitive (take electricity versus fossil fuels). The development to tax carbon emissions instead of appliances should be taken further also in the transport sector. At the moment the infrastructure for new technology vehicles is still missing. However, in some extent, the infrastructure will be developed while the number of EVs increase. New technology often creates uncertainty among citizens, too. R&D and information are needed to bring low-carbon technologies familiar to citizens. Railroads are in large extent electrified already, and the challenge is how to use rail-capacity more efficiently. Electric vehicles for passengers are already in mass-production. RES-based solutions for transport of goods may need rather lot of R&D and time before the technologies become economically feasible.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

However, if new sustainability criteria are needed, they should be applied to the origin of bioenergy, irrespective of whether bioenergy is being used in industry, energy production or as traffic fuel. The target should be global sustainability criteria, but at least common requirements for bioenergy in the EU.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

Cooperation mechanisms are useful, but exploited far too little. Commission must act now to ensure level playing field between member states and to give guidelines how the vast number of support schemes being used will converged.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

EU should look forward to bring market based solutions for energy exports and imports with neighbouring countries. In the same time EU should promote neighbouring countries to take actions for to ensure similar environmental requirements for energy being imported as the energy being produced within EU.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

No (explain why)

Please explain why -open reply-(optional)

Investments for electricity networks should be primarily market based. This concerns especially network investments with EU and third countries. For the purposes of achieving internal market some financial support will be needed within EU.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Other measures (please specify)
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Please specify which other measures -open reply-(optional)

Cooperation with third countries must be based primarily on economic consideration.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Instruments promoting the import of renewable electricity from third countries to meet European RES/decarbonisation targets exist, but can be further exploited. Article 9 of the RES Directive already offers the opportunity to meet RES targets via imported electricity from third countries, and should quickly be transposed into national law by EU Member States. However, cooperation mechanisms within the EU should not be forgotten: they are even more important and should be used without delay.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Attention must be paid to getting new innovation to market. The required measures should include more financial support and also share the existing knowledge of creating success. In other words a more systematic "European mentoring" system for new entrepreneurs could be useful. With a cost-efficiency consideration, priority funding should be granted to those technologies which are on the edge of competitiveness as opposed to technologies which have still a long way to go to go down the cost curve and reach competitiveness. This would intend to avoid stranded assets.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Electricity storage, wave energy

J.4. How successful do you consider the	Successful but some drawbacks (please specify which)
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existing measures have been and which have been the main drawbacks? -single choice reply- (optional)

Please specify which drawbacks -open reply-(optional)

SET plan provides a good framework for low-carbon energy technology development. Industrial initiatives also cover the most important technologies. However, there should be enough flexibility in order to make it possible to include completely new technologies in the scope if need be.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

No. There are always risks associated in technology development and therefore it is not useful to established strict deadlines. However, technology roadmaps which are drawn in cooperation with industry, research organisations, public sector etc. can be useful in showing the way towards commonly agreed goals. It is important that research financing institutions also commit themselves to these roadmaps.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Danish Energy Association, Stine Grenaa Jensen, sgj@danskenergi.dk

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

Denmark

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

A 2030 target is pivotal for being on track towards 2050 for the EU. An important goal for Danish energy companies is to contribute to a framework that promotes and supports a transition of the European energy system to a carbon neutral energy system. The transition is depending on companies, who are willing to invest in new carbon neutral technologies. Investment decisions are made in consideration of the commercial interests of the companies. Stable long term framework conditions for renewable energy are essential for reaching the goal of a carbon neutral energy system by 2050. Stable long term framework is first of all guided by ambitious and clear EU CO2-reduction targets and renewable energy targets are needed for 2020, 2030 and beyond. The EU ETS should be empowered to

remain the key driver for decarbonising the European economy. First step is to step up the target for ETS in 2020 from 20 to 30 %. Stable long term framework conditions compatible with one common European power market is the guiding principles for the policy of the Danish Energy Association in relation to renewable energy, underlined by: • Policies aiming at long term goals, and hence, long term binding goals for renewable energy • Acknowledge that the RES-technologies have different needs • The use of more flexible support mechanisms • Market driven development of technologies • Transparent support schemes in order to create cross-boarder competition • The use mechanisms that are suitable fo

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Continue to ensure sustainability and scalability

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will continue to be necessary to support specific renewable technologies post 2020. Some immature technologies will need support in the form of research, development & deployment, while mature technologies will be able to operate on market terms (electricity price plus ETS-price). The purpose of supporting renewables is to accelerate technology development and hence cost decrease. This means that support has to be given to immature technologies and in line with the technology development support should be phased out, e.g., in line with the suggestion of IEA on support principles. As an increasing number of RES technologies will become more and more cost-competitive, and hence, it should be possible to integrate them into the market progressively from 2020 onwards. The EU ETS should preferable become the driver for deployment of low-carbon generation, including renewables, in order for specific support to be phased out. However, with current low carbon prices this will only happen if the ETS system is strengthened with long term visions and ambitious targets. As examples, onshore wind is a technology where support for new investments should be unnecessary post 2020, still bearing in mind that no retroactive changes are desirable. However, offshore technologies still a need for deployment subsidies in order to accelerate cost decreases.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

All the possibilities have to be addressed before 2020, in line with the evolution of the internal energy market. The position from Danish Energy Association is that the issues are handled in the following order: 1. Open up national support schemes to cross-border projects 2. Making support schemes more market-oriented 3. Accelerate convergence of national support schemes 4. Phase out support schemes over time, as technologies reach competitiveness to market prices The possibilities have to be addressed in a way where there is transparency and stability in the changes in order to make sure that changes are not jeopardising stability in the investor climate.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single

N/A

choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
<p>Danish Energy Association advocates for more harmonisation, not only of support schemes but also for other renewable energy policies. Common approaches are very important in line with a more common power market, but it is not of first priority to create benchmark values, but by other issues like design of support schemes, market compatibility etc. Furthermore, the important thing is to find a common framework approaches such as design methods and transparency. It is not important which type of support schemes is use, but all supports schemes has to follow cetain guidelines, e.g., guidelines that insures a low level of market disruption from support scheme delign. Then, in time, this will lead to common support levels through market mechanisms, but Danish Association sees that as a bottom up process, and no a European regulatory task. We need the framework conditions to be harmonised first, secondly structures of support, and finally through market mechanisms harmonisation of support levels will happen. In the opinion of Danish Energy Association it is not vital if the structure is feed-in premiums or certificates, the important issue is that the systems are not distorting the market and that renewables are operating in the market in line with other electricity generation sources.</p>	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
<p>Overall it is important to acknowledge that deployment of renewable energy is a change in the energy system, in particular the electricity system. Hence, further deployment and integration of renewable energy technologies has to take into account that they are part of a common European market with trade across borders. This implies that support for renewable energy has to be able to coexist with the common European market without distortion of the market signals. In order for the internal electricity market to be functioning efficiently, it is important for Member States to increase collaboration also when it comes to support schemes. The first step is the cooperation mechanisms that should be elaborated more in the different Member States in order to decrease overall EU-costs of renewables. Danish Energy Association finds that a bottom-up convergence on the basis of different types of cooperation is the way to go forward. Bearing in mind that investment stability in support schemes is important to keep investor confidence in the renewables market.</p>	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
<p>Some support schemes are more compatible with the well-functioning of market dynamics than others. Regardless of the scheme applied, it is essential that renewable energy producers contribute to balancing and grid connection costs. We believe that schemes based on feed-in premium or certificates – given the exposure to market dynamics that it allows – are preferable to Feed-In-Tariffs. As a minimum, support in hours with negative prices should not be given to any renewable energy technology.</p>	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed

impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	technical specifications
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Danish Energy Association believes that the above listed aspects are all relevant and should be addressed to stimulate investments in RES capacities. In general, we consider that the length of the administrative procedures is the most important issue to deal with. Planning and authorisation delays must be tackled both in relation to renewable energy facilities and the power lines required to connect them.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Common framework rules for grid integration are essential for a well-functioning internal power market. Hence, it is very important to address all the above mentioned issues way before 2020. Harmonisation of balancing rules is mostly important as the different technologies face same payment for being part of the energy system with respect to balancing requirements and participate in balancing cost. An EU-wide approach is needed in order to go forward. Curtailment regime should be a harmonised rule in the market rules and marked design which is also an important parameter in the optimization of production from different kinds of renewable. But harmonisation of curtailment regimes needs alignment of cross-boarder congestion management before going ahead.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Priority or guaranteed access
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D.2.1. Please explain why -open reply-(optional)

In order to integrate renewable energy in the energy system it is important to ensure that grid related rules do not hinder the optimal use of renewables and other types of energy. According to Danish experience, priority of dispatch has been helping deployment of renewable electricity in the early years with very low shares of renewable energy in the electricity system. With increasing shares of renewables, we see larger effects on system balancing, and hence, it is now important to integrate renewables in another way. First step is to require renewables to take equal part in scheduling and balancing obligations, as other generators in order to reduce total balancing costs. If this is not done, full integration of wind and solar generation in the market will never be achieved. Already today, there are examples from countries where priority dispatch is not necessary to integrate renewables. Priority dispatch is not the most efficient way to integrate renewables. E.g., there are hours in some areas, where more that 100 % of the production comes from renewables. With priority dispatch it is not possible to decide for the market which of the renewables that should produce. Priority of dispatch is a solution for a minority of technologies, and with increasing shares of renewables this policy has to be abandoned. Following, renewables should be given asses to the grid, but not priority in the dispatch.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit
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flexibility reserve of the system: -multiple choices  
reply-(optional)

auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

The challenge of managing variability will require innovation and investments as well as a reliable regulatory framework that provides the right incentives for energy infrastructure investments. Variability at unprecedented levels will therefore have to be managed, with major implications for all generation technologies, transmission and distribution grids, energy markets and end-users. Following, we need to adopt a system approach to RES that considers all elements. • A system approach which takes into account the flexibility on the generation side, the flexibility on the demand side; the degree of market integration and the degree of interconnection of different power systems is needed • A basket of different solutions will have to be implemented, taking stock of the specificities of different countries and/or regions • If gas is to play a major role in terms of flexibility, the underlying gas markets need to develop towards a single EU gas market which flexibly delivers gas supplies to power Variability requires back-up capacity from dispatch able generation and an extended transmission and distribution grid. Improved forecasting of wind and solar power, enhanced ability to regulate dispatch from the existing generation fleet, and improved balancing, also on the border. Demand side measures, smart grids and Research, development and deployment can speed up this development. New interconnections will complete the effort to balance the electricity system.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

First of all, the level of response to market signals depends on the level of maturity of a particular renewable technology. Furthermore, market integration is a fundamental solution for a successful RES integration. The large amount of planned additional intermittent generation sources will to a large extent challenge the process of market integration. Based on existing scenarios, wind energy injection will be mainly concentrated in the north of Europe and Iberia, whereas the flexible generation is dispersed throughout Europe. To secure a balancing of this, the market integration tools are indispensable in ensuring and facilitating the contribution of all available flexible sources throughout Europe, i.e.: 1. Market coupling 2. Cross-border intraday market 3. Cross-border balancing market activities Danish Energy Association believes that a level playing field in balancing responsibility for all producers needs to be ensured to incentivise market participants to improve scheduling and forecasting and thus limit system cost. Furthermore, Danish Energy Association considers it necessary to ensure a level playing field for balancing responsibility which applies to all producers, including wind generators, in order to stimulate all market participants to carry out thorough and proper scheduling and forecasting and thus limit system costs.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Flexibility must be awarded through the balancing market and other market signals. Though, market solutions for including demand side

response still have to be developed. In order to include demand response to market signals, and smart meters are necessary. The current development of electricity markets in Europe based on spot pricing, market coupling across borders, and increasing cooperation on system operation is a prerequisite for effective integration of renewables, this also includes rewarding flexibility. Market signals should be adequately reflecting the role of flexible generation and demand response as a flexible resource in the electricity system. This must be kept in focus, so that the last steps towards a well-functioning electricity market can be taken as quickly as possible. Ensuring that investors have sufficient incentives to invest in capacity, adequately and timely, will probably require adjustments of market designs, particularly the design of markets for reserves. The problem of remuneration of thermal capacity will depend greatly on the capability to develop transmission capacity that connects markets, and the ability of policy makers to reduce the core political uncertainty about policy direction. Last but not the least, a fully functional marketplace that facilitates entry of both renewable and thermal capacity is that with the framework providing conditions and structure for sufficient liquidity and alignment in incentives for cross-border trade.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Building regulations etc. - Lack of suitable information

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

By using biomass in high efficient CHP plants and energy efficient heat pumps.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of standards - Lack of infrastructure - Other (please specify)

Please specify which other barriers -open reply-(optional)

The transport sector will have to undergo a radical shift in order to become more sustainable: fossil fuelled cars will need to be phased out in order to drastically reduce transport emissions. Cost of batteries is a very important barrier. For plug-in and battery electric vehicles the biggest burden remains the costs for batteries which results in a higher up-front purchase price, which is the key determinant for customers. Like with every new technology, standardisation is a prerequisite for market deployment and development. Europe still has not found consensus on a single connector to charge electric vehicles. Work to support the development of standards is being done at NEVIC: Nordic Electric Vehicle Interoperability Centre. The project and the test centre is designed to support the development of standards and to ensure the proper implementation of current standards. In addition to a standardised hardware solution to charge electric vehicles a standardised communication protocol is required which will feature between: the charging infrastructure, the electric vehicle, the energy management system of the private network and the electricity distribution grid. As for advanced biofuels, the barrier has moved from being of technical nature to policy and financing. New innovative technologies like advanced biofuels are not yet competitive with conventional biofuels and fossil fuels. Hence commercialisation depends on political leadership and adequate and long-t

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers

### G.2.1. Please explain your answer -open reply-(optional)

With the state of the art technology of battery electric vehicles, they already offer a sustainable alternative for urban and city traffic. Road passenger transport especially in urban areas and cities should shift to electrified vehicles as they contribute significantly to environmental challenges like: no local emissions, no air pollution and no noise pollution. Buses for public transport in urban areas are predominantly operated with diesel engines. In order to reduce global as well as local emissions caused by public transport, full electric buses are being investigated as a low emission alternative. Different technologies are existing (battery swapping, conductive (AC / DC) and inductive charging, ultra-fast recharging at regular stops, cost estimation and grid impact is being studied. Also, electric drive trains may offer solutions for urban freight transport by turning the last miles of a supply chain electric. Again this possesses a huge potential to improve urban pollution of emissions, noise and air, in European cities given the growing urbanisation rate.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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### H.1.1. Please explain -open reply-(optional)

With respect to sustainability criteria, we need to address the issue of sustainability for biomass before 2020, as biomass is expected to play a large role in the future energy system. Danish Energy Association would like to see mandatory EU-wide sustainability criteria for biomass. These are required to guarantee the sustainability of biomass. Sustainability criteria should, principally, be the same for all types of biomass, but must take into account the differences between different types of biomass. While sustainability of agricultural biomass is often connected with the food chain and land-use change issues, forest biomass sustainability is more related to sustainable growth, carbon stock and biodiversity issues. Therefore, the single set of criteria for these different forms of biomass must take into account the differences.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	Yes
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	No, the EU should first focus on developing its own renewable potential
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I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	No (explain why)
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### Please explain why -open reply-(optional)

European electricity networks, in general, need to be modernised and built out. This is particularly the case for the integration of huge amounts of variable renewable energy from sources far away from the large European consumption areas. All need to abide to the same legislation, but in this light it is imperative that an area such as the North Sea is prioritized politically to ensure the gradual emergence of a coherent North Sea grid.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Agreements between the EU and third countries
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners

beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Yes, such cooperation should be further fostered and a European approach should be pushed forward to encourage the smooth and swift development of offshore wind in Europe.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The new, low-carbon energy system should be complemented by a stronger focus on the full innovation chain and on research, development and demonstration. Enhanced RD&D is needed to propel low-carbon technologies towards competitiveness, enabling them to compete on a level playing field with other technologies. The success of renewables in the future is highly dependent on our ability to innovate, both with respect to developing individual technologies, but also in the implementation and use of technologies in the overall energy system. More focus on issues related to integration of renewable energy is needed. A large part of the support for new energy technologies which is allocated is directly or indirectly to renewable production technologies. System integration is an important part of utilizing renewables in the energy system, and this requires evolution of new technologies for system integration and not only technology development. Still, technology development of individual renewable energy technologies needs to be supported, if carbon neutrality in 2050 is the ambition. There are a lot of opportunities to increase technology performance and cost-competitiveness. These opportunities have to be followed up by political support. Furthermore, new immature technologies could show to have large potentials in the future, and this needs to be included in the long term visions as well.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

No, assistants should be linked to participant's ability to solve specified problems. More focus should in general be given to solving specific problems rather than developing specific technologies.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

EuropaBio - The European Association for Bioindustries - Antoine Peeters - a.peeters@europabio.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Belgium

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Mandatory targets are preferable at both EU and sectoral level and must be accompanied by penalties for non-fulfilment in order to ensure their effectiveness. The proceeds of which could be returned to producers or contribute to the financing of demonstration and flagship plants. In parallel, it is necessary to increase the requirements of already effective and existing means such as the Fuel Quality Directive and the Emissions requirements for vehicles. Because the main energy demand growth comes from transport, and the steady increase in GHG emissions in the sector, it is important to pursue sectorial targets as initiated by the RED towards 2020. The experience where the RED followed the first Biofuels Directive is an illustration of the need for mandatory targets in the transport sector. In addition, a dedicated, ramping-up, achievable target for advanced biofuels would secure a market share by creating a predictable market for investors to target and creating time for the supply chain to be established on a measured basis. In the RED the European Union opted to encourage the diversification of feedstocks used to produce biofuels by introducing the double counting rule. However this instrument has so far proved rather ineffective to boost advanced biofuels deployment. Also in the 27 National Renewable Action Plans very little consideration is given to article 21.2 material-based biofuels. The tool also suffers from uneven implementation across Member States.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

Enhanced focus on R&D to bring down the costs of renewables technologies - Abolition of support mechanism or subsidies to

-multiple choices reply-(optional)

other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

According to the IEA World Energy Outlook 2011, contrary to fossil fuel subsidies, green technology subsidies provide benefits: “well-designed subsidies to renewables (...) can bring long-term economic and environmental benefits. However, the costs of subsidies to fossil fuels generally outweigh the benefits”. Advanced biofuels technology is today available for commercialisation at industrial scale. However, further enhanced research and development is needed to bring down the costs of the technology. Furthermore, more efforts are needed to support the deployment of advanced biofuels: - Public procurement initiates the build up of infrastructure like e85 in Sweden. The infrastructure should aim for blending pumps from 5 % to 85 % which encourage the car industry to develop and introduce dedicated engines. Public procurement of advanced molecules such as biobutanol and HVO can catalyze adoption of technologies at relatively low cost as they do not require infrastructure investment. - It is also necessary to ensure fair competition between renewable energy and fossil energy (be it conventional or unconventional) to ensure that support to renewables can be phased out in the long term. - Moreover, financial instruments to support first of its kind demo plants and start-ups will also significantly accelerate market penetration by reducing investment risk. - Finally, farmers should be incentivised through the CAP to produce energy crops on idle farmland and marginal lands.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support for renewables will be necessary until the externalities of fossil fuel use are fully included in the cost of that fuel, ie until a comprehensive tax on CO2 is implemented. As this is unlikely to happen in the foreseeable future, there is a need for financial support for renewable energy. Financial incentives should be phased out once a certain market penetration has been achieved, as shown by the US recent ending of the blender tax credit for conventional corn ethanol end of 2011. The journey towards competitiveness is expected to be the same for most European biofuels in the medium term provided mandatory targets are maintained. Specifically, for technologies just ready for the market, such as cellulosic biofuels, biobutanol, HVO and other, a subsidy for the first X million liters per litre produced fuel of a particular plant could be highly effective as it would lower the financial and project risk, while the technological risk remains with the operator. (Wind mill model) For advanced biofuels however, additional policy measures to stimulate investment in scale-up, supply of relevant feedstocks and up-take of advanced biofuels are needed. A combination of the incentives below (B-2) would help to overcome the obstacles inhibiting investment into advanced biofuel scale-up and bring advanced biofuel technologies across the “valley of death” between R&D and commercialization.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

The double-counting mechanism included in the RED has not delivered results in bringing new technologies at industrial scale Fuel demand •A dedicated binding sub-target should be allocated to advanced biofuel to ensure market certainty and investment spreading.This will only be effective if it is combined with high and stable, mandatory penalties for non-compliance •Tax incentives for advanced biofuels could be implemented in the ETD currently under revision •Production support/Feed in Tariff would help improve the case for the investors that are needed to build the first wave of commercial-scale plants.The costs of such a scheme can be capped by limiting it to a fixed accumulated volume for specific plants (like wind farms) Biomass supply •Feedstock collection and supply-chain incentives are needed to help establish agriculture and forestry biomass supply-chains and thus reduce feedstock uncertainty and the overall risk of advanced biofuel scale-up investments.It would also promote EU production Investment •The significant up-front investments required for building a new bio-industrial facility(€50-250M)present a real barrier. Investment support would reduce risk,

increase self sufficiency and promote EU production with loan guarantees giving lower interest, especially for “first of a kind” industrial plants. Financing of the EIBI would represent a real opportunity for this. •Support for infrastructure with blend pumps from flexibility beyond 2020 will also be necessary

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

This could be implemented through loan guarantees administrated by the European Investment Bank. This is currently implemented in the US at federal level. Alignment of incentives across the EU will enable the most rapid development of new biofuels technologies at the lowest possible cost by enabling investors to locate assets in the geographies which present the greatest technological and market advantages.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.3. Member states' failure to implement the double counting rule for advanced biofuels through the development of national initiatives is unpromising. In addition, where member state governments do provide financial support and incentives this tends to be on a relatively short-term basis, while the pathway to success is a long one. Therefore, an EU wide support for the Member States might be needed to start the wheels until the market is running. However, as long as taxations are decided on a Member States level it is difficult to give specific figures.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
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Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes whose interpretation remains at the discretion of Member States create distortion because •Different definitions of biofuels eligible for double counting may offer simple fuels an advantage relative to existing 1G fuel and takes market away for new technologies by watering down the value of double counting •Lack of definition of residues and diverging implementation •Measures are needed to check that the feedstock used is really eligible as advanced biofuels and/or to check that the biofuel corresponds to the declaration when consignments of blended biofuels are sold •Unfair competition and conflicts of use.To a certain extent, the additional value given to the double counting biofuels may also give more flexibility to pay a premium for the collection of the feedstock when necessary •Important to keep the double counting support for cutting edge technologies with high potential of industrialization and good market fit. This mechanism should incentivize development of both advanced feedstock and advanced molecules Recommendations •Support to art. 21.2 material should be applied exclusively for advanced biofuels that provide additional benefits, including the diversification of feedstock, higher yields, and need time to be competitive •Residues for biofuel applications will have to be defined uniformly across Europe. A unique, European grid of analysis and associated selection criteria and a positive list of qualifying material, maintained by an independan

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and	
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training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

N/A

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of standards - Lack of awareness - Other (please specify)

Please specify which other barriers -open reply-(optional)

Over the past five years, barriers for advanced biofuels have been moving from technology to policy and financing. Commercialization depends now on political leadership and adequate long-term and stable policies, as it has to be acknowledged that new innovative energy technologies like advanced biofuels are not yet cost competitive against conventional biofuels and fossil fuels. In addition, it is important to keep support to conventional biofuels as they are driving technological development to advanced biofuels and encourage infrastructures deployment. The issue needs to be addressed holistically and consistent EU action in form of legislation as follows: • Amending the Fuel Quality Directive: In order to be coherent with the RED requirements and to allow higher biofuels blend in motor fuels placed on the market, the FQD needs to be amended • Advanced molecules, such as biobutanol and HVO should be supported as they enable greater displacement of petroleum with renewables in the existing vehicle fleet and minimize or avoid the need for fuel-specific infrastructure investments • Fuels like e85 should be standardised and supported in all EU countries • The Commission proposal for amending the existing ETD and to end the volume based taxation of energy products and replacing it with a tax consisting of a CO<sub>2</sub>-tax and a general energy consumption-tax is absolutely necessary to solve the paradox of clean renewable fuels being taxed at a higher rate than polluting fossil fuel

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Air

G.2.1. Please explain your answer -open reply-(optional)

These are the sectors where petrol and diesel is used today and electricity from the grid is most difficult to implement. However, many things depend on how the incentives and demand will be introduced, which feedstock are available, where are they located, etc.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

It is crucial to set a level playing field between energy sources (all renewables and fossil) as well as for all energy uses (irrespective of the use, transport, heating and cooling, electricity) and therefore sustainability criteria should apply to all. After 2020 the sustainability criterias should include all land use including food and feed culturing.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Yes more widely. Support technology transfer and market development creates more sustainability and development in EU and put pressure on countries that are lacking behind in climate change development.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Industrial manufacturing and supply chain - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

As per answer to B-2, In most EU countries there is no or limited experience with large-scale collection and storage of biomass. Therefore incentives are needed to help establish agriculture and forestry biomass supply-chains and thus reduce feedstock uncertainty and the overall risk of advanced biofuel scale-up investments. It would also promote EU production and self sufficiency. These incentives could be implemented in the Common Agricultural Policy (CAP) revision as part of redirecting the CAP towards sustainable and renewable energy but it should also cover the mobilization of woody biomass from forest, underpinning recent initiatives in the forest sector.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The biggest challenge is to bridge the innovation death valley. It is not good enough to support one supplier of a special technology, there must be several flagship projects in each technology area.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

As per B2, a realistic investment support for demonstration and first-of-its-kind commercial-scale plants (financing of European Industrial Bioenergy Initiative) is needed. The up-front investments required for building these plants is significant (€50-€250 million) and risky – not least because they will have to compete with existing, non-renewable and un-sustainable energy technologies. Compounding this, the ongoing global financial and economic crisis has made investors and lenders more risk averse. Getting equity and especially debt finance for demonstration of first-of-its-kind commercial scale plants is therefore proving close to impossible. Appropriate financing the EIBI is one of the last opportunities not to miss the train of the advanced bioeconomy. The lack of long term (5-10 years) political incentives or mandates in the MS is the main drawback with RED and today's policy. In most MS there are not even short term (3-5 years) conditions set by the Governments.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

In principle yes, if it is possible to do. Coordinated actions collecting stakeholders into strong but not to big groups could be preferred. Many big EU projects include too many actors and are inefficient regarding results. The time frame from call to decision and finalising the project should be shortened so that the situation that was when the call was prepared still is relevant when the project is performed and reported. In some project there are also need of more flexibility for adjustments on deliverables and milestones during the project.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Malaysian Palm Oil Council; info@theoilpalm.org

2. Are you responding to this questionnaire on behalf of /as:

Industry

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Other (please specify)
Which other country? -open reply-(optional)	Malaysia
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
<p>MPOC strongly believes that a commitment to openness, transparency and non-discrimination should be principles at the heart of EU biofuels policy both currently and in the future. The methodology, input data and calculations which lead towards the adoption of particular default values should be released and made available for public and scientific scrutiny. Currently, Malaysia, along with other countries, has been assigned an arbitrary default value with little or no access to information that would allow sufficient understanding of how that value was calculated. The default value of 19% for palm oil is contradictory to a range of scientific and industry information, including life-cycle assessments and analyses on the default values conducted by European scientists. The effect of the default values for palm oil is to discriminate against the feedstock in terms of access to the European market, when compared with benefits accruing to a default values for EU-produced feedstock, such as rapeseed. As these default values are arbitrary and the process lacks transparency and openness, these values are both potentially discriminatory and in conflict with the EU's trade obligations. MPOC therefore believes that the principles of transparency, openness and non-discrimination, if properly applied to EU renewable energy policies, would result in increasing uptake of renewable energies, increased price competition, and better efficiency.</p>	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	
B.3. Do you think it would be useful to develop	

common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

The palm oil industry supports over half a million workers – almost half of whom are smallholders. These smallholders own and till small plots of land between two and four hectares in size. These smallholdings support 1 million people and constitute approximately 40 per cent of Malaysia's total planted area. The oil palm crop is often their single source of daily income and support for their families' survival. These producers are an important pillar for our nation's economy and prosperity. MPOC considers that many of the administrative and technical requirements of sustainability criteria are substantially flawed and often require an unnecessary level of administration which puts smallholders in developing countries at a significant disadvantage, and discriminates in favour of European producers. These criteria in their current form therefore constitute a significant barrier for smallholders seeking to export palm oil into Europe. Equally, compliance with the Renewable Energy Directive sustainability criteria is a highly costly exercise, which renders importation into Europe as a renewable energy source uneconomical for many, and again is favourable for European-produced feedstocks.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

MPOC believes that increased transparency and openness in calculating default values and assessing and confirming certification schemes would be a positive development. Recognition of the work of third countries in the field of sustainability is not adequately considered or respected under the current RED criteria. Malaysia has proven committed to measuring the life cycle GHG emissions from palm oil and to implementing national laws which ensure sustainability, the conservation of HCV land, and the protection of biodiversity. The Malaysian palm oil industry is investing in further measures to improve sustainability of palm oil including substantial investments in

methane capture technology, use of co-products and by-products as biomass, and the Malaysian Palm Oil Wildlife Conservation Fund. Malaysia has committed to maintaining 50% forest cover, a level that significantly exceeds that of any EU country. Research shows that Malaysia is a net carbon sink with a net carbon sequestration around 220m tonnes CO2 equivalent. MPOC has, through MPOWCF, made available \$20m for wildlife conservation. For every one hectare of land which is developed, four hectares of land are protected. Additionally, the European Commission should cease funding millions of Euros annually to organisations such as Friends of the Earth which routinely attack the Malaysian people and industry through spreading of untruths and disinformation, politically-motivated PR campaigns, and consistent scare tactic

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

MPOC considers that a major barrier to the uptake of and investment in renewable energy is the lack of appropriate and substantiated information in relation to the environmental impact of biodiesel from a palm oil feedstock. Many recent politically-motivated campaigns in Europe have spread significant misinformation about the environmental impact of oil palm plantations. As a result of this and other factors, such as trade distortions, palm oil's enormous potential as a source of renewable energy for the transport sector has not been fully developed. MPOC believes that misinformation over the environmental impact of palm oil has led to inadequate and flawed decision-making within public bodies, and as a result, palm oil is not adequately or appropriately utilised as a source of renewable energy in the European Union. Palm oil provides enough fuel per hectare per year for a VW Polo will run for 109,000 km; recent research from Germany shows that rapeseed would only provide enough fuel for 23,600km. Palm's oil's unique efficiency can revolutionise renewable energy in Europe. These artificial barriers to the importation of palm oil for use as a biofuel is a large hindrance to the uptake to renewable energy, particularly given that palm oil is the cheapest, most efficient and highest yielding biofuel feedstock available on the global market.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing criteria are already burdensome to implement

H.1.1. Please explain -open reply-(optional)

The palm oil industry in Malaysia is an innovative, technologically advanced and sustainable industry, and as a result is currently meeting or exceeding all the EU criteria for certification, for example under the ISCC scheme. Despite the fact that Malaysian producers are self-evidently able to meet these criteria, it is clear that the existing sustainability criteria are highly burdensome and costly to implement, particularly for smallholders and producers in developing nations. MPOC considers that many of the underlying assumptions used to formulate the current sustainability criteria are substantially flawed and often based on incorrect or incomplete scientific information. MPOC considers that this measure raises serious concerns over the EU's compliance with obligations under the WTO. MPOC also find that the sustainability criteria are an unwarranted incursion into the domestic sovereignty of Malaysia to determine how land in Malaysia is utilised. Finally, MPOC strongly urges the EU not to adopt additional criteria for 'indirect land use change' given that the current state of scientific knowledge and modelling is deeply flawed. It can reasonably be asserted that no model is capable of capturing the impact of the Renewable Energy Directive on land use change, particularly in developing nations. This position is supported by countless academic studies, scientific reports and other analyses, many of them conducted by scientists or institutions in EU countries.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Developing nations, including Malaysia, have a significant part to play in providing sources of renewable energy, particularly from biofuel. Malaysia's primary plantation of oil palm is the highest yield, highest energy output oilseed crop in existence. MPOC urges the EU to engage with Malaysia and other developing nations to negotiate a mutually beneficial approach to facilitate exports of biofuel feedstock. MPOC believes that with proper communication and consultation on internationally or bilaterally agreed approaches, rather than unilateral imposition of arbitrary trade controls, can create conditions from which both Malaysia and the EU can benefit.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

Malaysia, the European Union and other affected third countries should reach common accord that arrangements which facilitate the import of biofuels comply fully with international trade obligations. Arrangements to enable consumers to be satisfied that biofuels are sustainably produced should be voluntary systems of certification, not centrally-endorsed or certified EU systems.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of

renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Anna Holmberg, Arizona Chemical, anna.holmberg@azchem.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Netherlands

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case

<p>with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Abolition of support mechanism or subsidies to other energy sources - Continue to ensure sustainability and scalability</p>
<p><b>B. FINANCIAL SUPPORT</b></p>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>No</p>
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Phase out support schemes over time (please specify for which technologies if applicable)</p>
<p>Please specify for which technologies (if applicable) to phase out support schemes over time  -open reply-(optional)</p>	
<p>Financial measures aimed to boost the biofuel production from biomass cause permanent disparities, encouraging direct energy use of scarce resources that constitute valuable raw materials for other industries. It cannot be seen as economic viable to promote the competitiveness of the bio-energy industry, while threatening the raw materials supply for other industry sectors, such as the biochemicals industry. Subsidies by Member States in the field of renewable energy should be based on a balance of interest between the environmental objectives and effective competition. We, therefore, believe that the support schemes for biofuel production should be phased out as soon as possible.</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	
<p>B.7. Do national support schemes and</p>	<p>Yes, some support schemes are more distorting than others</p>

differences between such schemes distort competition? -single choice reply-(optional) (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Arizona Chemical is very concerned about state subsidies, which unilaterally promote the use of natural resources for bio-energy production, thereby, distorting the raw materials market and hindering access to such resource for alternative industrial uses. Under the RES Directive, biofuels and bioliquids produced from "production residues" only have to fulfil one of the five sustainability criteria in order to be eligible for national State aid and to be taken into account for measuring compliance with renewable energy obligations. The use of biofuels derived from "residues" is being double-counted towards the target of renewable energy sources in transports. This has resulted in various national support schemes for the production of such biofuels and bioliquids for transport and electricity/heat generation. In the absence of a harmonised approach in the national transposition of the Renewable Energy Source (RES) Directive, some Member States have decided to implement a very broad definition of "residue", thereby, also incentivising bioenergy production from renewable raw materials, which are already deliberately used in sustainable and innovative industrial applications. The support schemes give an unilateral advantage to the production of biofuels from such raw materials, at the expense of other industries already using these natural resources in a sustainable and economically advantageous way without any State support.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available -open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind

and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices  
reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices  
reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice  
reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices  
reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices  
reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open  
reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices  
reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices  
reply-(optional)

G.2.1. Please explain your answer -open  
reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?  
-multiple choices  
reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open  
reply-(optional)

We believe that a holistic approach is needed when developing EU energy and climate policies. Not only renewable energy targets should set the agenda but resource-efficiency/sustainability objectives need to be taken into account as well. We, therefore, favour sustainability criteria which clearly state a preference of cascading biomass use, ensure that the maximum value is extracted for biomass in all forms before it is used for energy purposes. Our main raw material, crude tall oil (CTO), is a concrete example of the possibility of cascading use of a scarce natural resource giving maximum value for the environment, society and economy. CTO is a co-product of pulp and paper industry, a pure tree oil which can be refined into a wide range of sustainable chemicals, enabling manufacturers to replace fossil-based chemicals with greener alternatives for everyday consumer products. Direct energy use of CTO does not allow using the valuable natural raw material to its full potential, and gives very limited benefit to society. The current legislative framework does not ensure that resources are used efficiently to their highest value, with energy use only at the end of the lifecycle. We hope the Commission takes a holistic approach, looking at the full life-cycle of different materials when developing policy measures on renewable energy.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy?

-single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose?

-single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities?

-open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere?

-open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of

renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

VALERIA PALMISANO, EDISON, valeria.palmisano@edison.it

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Italy

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case

Yes, a combination of EU and sectoral level targets is appropriate

with the 20/20/20 targets in the Europe 2020 strategy?  
-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The full RES potential should be exploited in all the relevant sectors (electricity but also heating, cooling and transport) beyond 2020. Such a potential should be taken into account when defining new policy tools, as it would enable Member States to design their strategy in the most efficient way and better decline their targets according to specific national circumstances and costs.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Continue to ensure sustainability and scalability

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Support for the most mature RES technologies should be gradually phased out in favor of a market based approach. Nevertheless, and in absence of clear and sufficient carbon price signals, RES support will be needed if de-carbonization objectives are to be met, especially in R&D activities before deployment, in order to reduce the costs of less mature and most promising technologies.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Phase out support schemes over time should be considered for those RES with limited expected improvement in terms of efficiency and technology

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

A major effort should be done in particular in those sectors with the highest potential for improving the efficiency in production.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)

Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

Please explain how it could be achieved for third countries -open reply-(optional)

An assessment of the RES initiatives under the current flexibility mechanisms with member States and Third Countries should be carried out in order to evaluate the cost and the effectiveness of these schemes and their impact on the national markets concerned, in particular as regards the costs and the consequences of the physical import of RES electricity from Third Countries and potential distortions of competition arising thereof within the Internal Market on domestic RES and conventional generation.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

RES integration will be one of the major challenges, and will have to be addressed in a broader perspective in terms of network development and flexibility requirements on thermal generation. Adequate investments in the grid will be key. Clear principles of cost allocation between TSOs/DSOs and generators should be set at EU level. Differences in gate closure time across markets can generate significant impact for the competitiveness of intermittent generation where balancing costs are not socialized. Therefore some action is needed in sight of growing integration (market coupling, cross border intra-day markets etc.). Reliable forecast on power generation will be critical. RES producers should bear part of the balancing costs, but specific market arrangements could be envisaged to curb the financial risk generators are exposed to. Generators could be aggregated in balancing areas and for instance thresholds could be envisaged within which unbalance is tolerated or then charged.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market

The current wholesale market model based on short-run marginal

design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)
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Please specify which instruments incentivising investment -open reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Lack of awareness
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Maximum consistency should be pursued by taking into account the new requirements currently under revision by the Energy Efficiency Directive

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Lack of infrastructure
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Road for goods
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	
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H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	No (please specify how they should be amended or which elements added)
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Please specify how they should be amended or which elements added

-open reply-(optional)

The current framework allows for cooperation between Member States and Third Countries to develop RES generation under the flexibility mechanisms as defined by the RES Directive 28/2009/EC. An assessment of the RES initiatives under this scheme should be carried out so far to evaluate the cost and the effectiveness of these schemes and their impact on the national markets concerned, in particular as regards the costs and the consequences of the physical import of RES electricity from Third Countries and potential distortions of competition arising thereof within the Internal Market on domestic RES and conventional generation.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

An efficient use of transmission capacity and national grid congestions triggered by the increasing share of RES should be duly addressed before additional investments as considered by TSOs in dedicated RES cross-border interconnections

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

The current framework allows for cooperation between Member States and Third Countries to develop RES generation under the flexibility mechanisms as defined by the RES Directive 28/2009/EC. An assessment of the RES initiatives under this scheme should be carried out so far to evaluate the cost and the effectiveness of these schemes and their impact on the national markets concerned, in particular as regards the costs and the consequences of the physical import of RES electricity from Third Countries and potential distortions of competition arising thereof within the Internal Market on domestic RES and conventional generation. Distortion in competition vs EU domestic and conventional generation should be avoided.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies

System integration - Industrial manufacturing and supply chain

to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	
J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)	
J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

<b>IDENTIFICATION</b>	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	EUROPEX, the Association of European Energy Exchanges
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Considering the ambitious goals for GHG reduction in Europe by 2050 and the important contribution that RES will have to make to achieve this objective, a mandatory target and thus legal commitment to RES deployment is preferable over a pure voluntary approach. Only such a robust political and regulatory framework can ensure that the RES deployment rate actually meets the desired results. That applies for direct GHG targets as well as for indirect sectoral targets such as share of power from renewable sources.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

The reason to allocate financial support for specific technologies should – besides accompanying socio economic considerations – clearly be to bridge the learning curve until this technology reaches market maturity, i.e. can compete with other technologies without support (grid parity). If this is in reach, support should be limited and new installations shall operate under market oriented models with underlying (ideally EU wide quota obligations). Big scale bubbles of macroeconomic suboptimal installations like PV in Germany and Spain should be avoided. The (EU- wide) allocation of financial support to specific technologies/locations (markets) should follow a ranking of distance from and chances to reach grid parity based on independent scientific research.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-

(optional)

Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Europex considers an EU-wide market-based mechanism, namely a tradable green certificate scheme based on national quota, to be the most cost-effective instrument for RES deployment. This is particularly true when RES progresses from a rather small to a more significant share in the EU's energy mix. Since RES deployment has already reached a decent degree until today, financial support for RES should better take into account Europe's diversified local, geographical and climatical resources. Due to the non-harmonized structure of RES support schemes in Europe, investment patterns in RES have so far rather followed the most favorable promotion policies than those locations which can be exploited most efficiently. Such inefficient allocation of resources would be mitigated significantly by applying an EU-wide market-based mechanism.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-

(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Given that the choice and regional scope of support schemes is crucial for the degree of cost-efficiency at which RES target can be achieved, a transition towards a market-based and EU-wide support scheme for renewable seems to be advisable even before 2020. In fact, there should be room for gradually phasing-in such an EU scheme, as national quotas for RES do not necessarily interfere with existing national support schemes: For instance, national quota and a system of tradable green energy could be introduced – in a first

step – in parallel to current national support schemes. This could be done by setting national quota at a level above the deployment rate which is expected to come from national support only. This would result in an additional incentive that could be satisfied by a market-based mechanism and thus in a cost-efficient way. In a next step, we suggest a fully harmonized support system on EU level based on national quota with tradable certificates.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

With ever increasing shares of RES on the one hand, and still ambitious emission reduction targets for 2050 on the other, Europex strongly believes that it is time for a truly European approach towards RES support. This could be achieved by way of a gradual transition (see our response to question B.4). This would be without prejudice that individual and national approaches could still be kept in other spheres of RES support, for instance with regard to R&D policies. Once an EU-wide market mechanism for RES (financial) support is in place, it would of course also make sense to enlarge its scope to third countries. This would permit further efficiency gains, in particular when third countries have specific RES at lower cost-levels than within Europe.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Different national support schemes impact on the price formation in each Member State differently: Whereas feed-in tariffs are completely separate from the electricity market and energy producers do not take any price risk, suppliers do respond to price signals in market-based mechanisms such as certificate schemes. Therefore, distorting effects will materialize to varying degrees, depending on which support schemes are applied. This is particularly an issue when it comes to market coupling which involves different market areas with so far different types of support schemes in place. The fragmentation of national RES support schemes also leads to a high degree of complexity for market participants. In our view, this is another major obstacle for an efficient and successful expansion of RES technologies, as it limits the investors' ability to make optimal investment decision. This may lead to less-efficient investment in RES than possible under harmonized rules.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems

identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Other (please specify)

Please specify which other measures -open reply-(optional)

Further explanation to Europex's answer choice: It is our belief that markets provide for signals that allow the system integration of renewables: Well-functioning markets provide transparent price signals that lead to physical cross border flows from low price to high price areas or from areas with excess electricity production to areas with less available capacity or even scarcity. Consequently, cross border trade, in particular via implicit auctions, already today leads to situations where high electricity production from fluctuating RES is used to compensate less availability in other countries and vice versa. We believe only well-functioning markets deliver elemental incentives for demand- and supply-driven physical flows. Hence, market integration of RES is a precondition of system integration. By the same token, trading closer to real time facilitates market and system integration of RES as it helps to display the physical reality within the grid as solar and wind production cannot be forecasted with certainty. We believe trading closer to real time helps to integrate RES into the electricity system as well as into the market.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

The following explanations are valid for E1, E2 and E3. Market mechanisms should be the central coordination mechanisms of the electric system as they provide important incentives for the system integration of fluctuating RES. In order to preserve market mechanisms, RES need to be integrated into the electricity markets. Therefore, market arrangements are in principle appropriate frameworks for RES, but they need to be further developed. Besides market integration of RES, the creation of new market-based mechanisms might be necessary, e.g. flexible market responses and/or Green Power Certificates. E 1: In order to integrate RES into electricity markets, RES should bear as many market-specific risks as possible within the electricity markets, including price risk as well as volume risk. Premiums (e.g. as tradable Green Power certificates combined with national quota) should be granted outside of the electricity market in order to avoid market distortions. Balancing risk: RES should contribute to the balancing markets as far as possible. For this purpose, RES-plants, fluctuating RES as well as dispatchable RES, may be pooled as they tend to be small and fluctuating RES-production may be compensated within a pool. Fluctuating RES-capacities have to be adjusted by a technology-specific factor in order to ensure the necessary availability for providing balancing services. Dispatchable RES-plants are able to provide balancing services with fewer limitations.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

As outlined in our response to E.1., we consider market arrangements and market signals as suitable to provide optimal incentives for the use of demand response and storage. The question which technology is most appropriate to meet the demand for flexibility needs to be answered by the market.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing is appropriate

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider

to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?</p> <p>-multiple choices reply-(optional)</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?</p> <p>-open reply-(optional)</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)</p>	
<p>J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?</p> <p>-open reply-(optional)</p>	

<h2>IDENTIFICATION</h2>	
<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>Danish Agriculture &amp; Food Council</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>Denmark</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>Yes, a combination of EU and sectoral level targets is appropriate</p>
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<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
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(Binding) targets give guidance to investors and other economic operators regarding the long term policy direction. It is evident, that such targets must be consistent with other targets, i.e. climate change and energy efficiency,. Targets should be combined EU and sectoral, reflecting the different potentials of each sector as well as efforts already been made. Furthermore, the appreciation of different renewable energy types should be seen horizontally, allowing for the acknowledgement for the contribution to i.e. security of supply, energy system services or resource efficiency. Support for biogas from manure thus not only provides green energy, but also delivers on a number of other goals, such as reduced leaching of nutrients, reductions in GHG emissions from agriculture and recirculation of nutrients from organic sources (including waste)

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability</p>
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## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>Yes</p>
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<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with benchmark values for support level per technology per Member State</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>N/A</p>
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<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
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B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	N/A

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
The administrative and economic elements of certification of sustainability for biofuels (and in the future even solid and gaseous biomass) must never be a barrier for the utilisation of community biomass.	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	
D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access
D.2.1. Please explain why -open reply-(optional)	
D.3. With regard to system integration of wind and solar power, what measures do you	Increase flexible back-up capacity (capacity payments ...) - Accelerate infrastructure development and interconnection

consider most important to increase the flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices  
reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices  
reply-(optional)

Dedicated arrangements to reward availability of generation capacity

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice  
reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices  
reply-(optional)

Costs/lack of financial support

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices  
reply-(optional)

Biomass

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices  
reply-(optional)

Costs - Lack of standards - Lack of suitable information

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices  
reply-(optional)

Road for passengers - Road for goods - Air

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?  
-multiple choices  
reply-(optional)

No, the existing criteria are already burdensome to implement -  
No, the existing binding sustainability criteria are sufficient

### H.1.1. Please explain -open reply-(optional)

The challenge is not further criteria, but rather the specification and implementation of existing criteria for biofuels (and the application of these criteria to solid biomass). Regarding indirect land use change, an action based approach should be adopted, rather than the re-active approach of additional criteria. Action should be taken to prevent the adoption of undesired land use patterns in third countries, rather than merely preventing the sale of such biofuels in the EU. This would contribute with real and visible action against deforestation and the growing of biofuels on peatlands. The introduction of iLUC-specific measures such as for example an "iLUC-factor" should be avoided, because 1) the scientific base is insufficient, and 2) it would be trade-distorting and sub-optimal regulation, not providing the necessary market signals for actually addressing the core of the problem.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

N/A

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

N/A

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

N/A

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
-single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be

Technology performance and cost-competitiveness - Industrial manufacturing and supply chain

<p>the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)</p>	
<p>Research into fully converting plant processing; capitalizing on synergies between the starch and sugar industries for fermentation applications; integration of the crushing and oleo-chemical sectors; fully integrated biorefineries; development of catalysts for advanced processes (e.g. converting glycerol to a range of chemical end products); development of fermentation processes to make new fatty acids; increase productivity per hectare by converting sugar to lipids</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)</p>	N/A
<p>J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)</p>	

<h2>IDENTIFICATION</h2>	
<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)</p>	<p>European Photovoltaic Industry Association / Alexandre Roesch / a.roesch@epia.org</p>
<p>2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>Belgium</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy</p>	<p>Yes, a mandatory target at EU level is appropriate</p>

efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The EU regulatory framework should be designed so as to ensure a level playing field for all energy technologies, while at the same time achieving the 2050 decarbonisation agenda agreed by the European Council. In the power sector, this agenda implies much higher share of renewable electricity – more than 50% already in 2030 in all scenarios (Energy Roadmap 2050). This would require major changes in the electricity market, where inadequate framework conditions currently prevent renewables from competing on a level playing field. At the same time, the EU ETS is not delivering at its full potential: further adjustments will be needed in order to drive investments towards carbon-free generation and make a real difference in the electricity mix. These remaining challenges show that a purely market-based approach would not, alone, deliver the politically driven transition. Market mechanisms should be combined with a binding renewable target that will allow “dynamic efficiency” i.e. that will develop technologies complementing each other in the medium to long-term and reduce overall system costs. As shown in a recent EPIA study, smart tailor-made policies have led to an impressive decrease of PV system prices (by 50% in the last 5 years) and of PV electricity generation cost. Other renewable technologies should be able to follow the same learning curve. A 45% binding renewable target for 2030 would deliver the right signal and avoid engaging into stranded investments.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

All the policy elements mentioned above will be needed, some of them (e.g. better financing possibilities or facilitation policies) requiring a particular attention. In addition, policy frameworks should evolve so as to allow distributed sources of generation to better contribute to the transition towards a more sustainable energy future. Enabling electricity consumers to produce and consume their own renewable electricity (through e.g. self-consumption and net-metering) will be particularly important. Other instruments should be promoted once a certain market maturity has been reached, such as power purchase agreements and required percentage share of PV in a power-provider's portfolio.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Smart deployment of support mechanisms has helped PV gain a market foothold in many countries, compensating for the difference in cost competitiveness between PV electricity and that of conventional sources. As that competitiveness gap narrows, PV will be able to rely progressively less on dedicated financial support, leading to the phasing out of such support schemes. The development of a real level playing field for all electricity generating technologies is however a clear pre-requisite for solar PV electricity to outgrow the need for financial support. Current support mechanisms could then be replaced by more indirect and time-limited incentives, depending on the segment considered: - In the residential, commercial and industrial segments, by mechanisms that will help close the gap and cover the high up-front investment (profitability of investments would then be ensured by the revenues linked to the electricity sold on the market and by the savings on the electricity bill); - In the utility-scale segment, by facilitating access to and lowering the cost of capital. Some

specific incentives might however still be needed on a temporary basis: - in northern regions of a country during a couple of years; - to support more specific technologies such as residential and commercial building integrated PV (BIPV), or innovative current and upcoming technologies such as concentrated solar PV, organic PV and dye-sensitised solar cells.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how)

Please specify how to make support schemes more market-oriented -open reply-(optional)

More market-oriented support schemes could only be envisaged in a well-designed and functioning electricity market. This would notably require an evolution of market design so as to better reflect the specificities of variable electricity generation. It should however be kept in mind that financial support is just one part of a comprehensive, multi-dimensional approach of support schemes that also include elements not directly linked to market signals: - Removal of barriers through streamlined administrative procedures and efficient grid connection processes; - Guaranteed grid access and transmission; - Information and awareness of the population/investors about the benefits related to PV; - Education and certification of installers; and, - Appropriate infrastructure development.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with benchmark values for support level per technology per Member State

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

National support schemes reflect country-dependent RES generation costs. For the PV technology, these costs depend on a series of parameters varying from one Member State to another: national installation and operation prices, administrative and grid connection costs, costs of financing, level of VAT (for the residential segment) and irradiation factor. Against this background, using benchmark values could, if determined per technology and at national level, provide guidance in designing support schemes. They should notably be used so as to provide stability to investors and avoid retroactive changes. However, aligning the structure of financial support by harmonising the type and the level of financial support would not deliver policy effectiveness. By favouring only the currently mature technologies, it would neglect "dynamic efficiency" of developing technologies that will complement each other in the medium to long-term and reduce the overall system costs.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

following Member States' implementation of the provisions of the Directive? -multiple choices reply-

(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

The final report of the European project PV Legal (February 2011) shows that administrative barriers hampering PV development in Europe can be classified in four main areas: - Barriers in permitting procedures - Barriers related to grid connection rules and technical standards - Barriers in grid connection procedures - Barriers related to grid capacity issues In Spain for example, legal-administrative costs represent up to 36% of the total development costs of a PV project in the residential segment, and up to 51% in the industrial ground-mounted segment. The report presents a series of recommendations that will result in reduced costs for PV developers. This, in turn, will reduce the overall cost for PV technology deployment and therefore the economic support needed by PV. The report can be downloaded here: <http://www.pvlegal.eu/results/status-reports.html> For the lack of commonly agreed technical specifications, please see below the reply on grid connection rules. (D1.1).

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

- Obstacles related to grid connection rules: the current development by ENTSO-E of a network code on grid connection requirements for generators, by neglecting too much the standardization process currently undertaken in CENELEC, will not deliver enough guidance so as to reduce by 2020 the variety of requirements observed today. In addition, specificities of variable energy sources such as PV are not enough taken into account (provision of reactive power, synthetic inertia and black start capability). - Obstacles related to balancing rules: current wholesale electricity market rules were designed at a time when centralised based-load generation was predominant. With a more decentralised, variable European electricity portfolio, these rules will have to be adapted. Both the time-horizon (day-ahead and intraday markets) and the geographical scope of the balancing regime should better reflect the characteristics of RES. These evolutions should be fostered by the network codes currently being developed by the ENTSO-E. - Curtailment regime: see the reply below to question D2.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment - Other (please specify)

Please specify which other rules -open reply-(optional)

Policy frameworks should evolve so as to allow distributed sources of generation to better contribute to the transition towards a more sustainable energy future. Enabling electricity consumers to produce and consume their own renewable electricity (through e.g. self-consumption and net-metering) will be particularly important.

D.2.1. Please explain why -open reply-(optional)

Smart deployment of support mechanisms, such as Feed-in-Tariffs (FITs), has helped renewables and PV in particular gain a market foothold in many European countries. Continued priority access and dispatch for RES after 2020 would maximize the effect on the electricity system of investments done so far through dedicated financial support. In addition, with virtually zero marginal costs,

renewable electricity entering the pool price is bringing the price down (merit order effect). In an electricity system with a very high penetration of renewables however, the right balance should be found between a systematic priority dispatch (that could lead to inefficient situations as shown in the high RES scenario of the Energy Roadmap 2050) and a complete non-differentiation between energy sources.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)
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Please specify which other measures -open reply-(optional)

Appropriate interconnections transmission capacities are necessary to ensure an efficient market coupling and a progressive convergence in the wholesale electricity price. At the same time, grids should not be developed only on the basis of a highly centralised approach: deployment of smart distribution grids will as well be of crucial importance. The flexibility of the energy system should be fostered through a better use of demand response instruments (demand and decentralised production aggregation). EPIA is currently developing a new vision for PV grid integration that will be published in the coming months, identifying a portfolio of solutions as well as short to medium and long-term needs.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

With a growing share of the energy mix, renewable operators should be able to take more responsibilities in the management of the system. Market design should allow renewable to valorise new balancing and ancillary services.

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Retail electricity market rules should foster self-consumption (notably through net-metering) in various PV market segments (residential, commercial, industrial) in order to level electricity demand peaks: availability of real-time production and consumption data (metering), clear and informative bills and time-of-use tariffs will therefore play a key role. In addition, aggregation strategies through, for instance, virtual power plants combining different renewable energy sources on a large scale will also have to develop in order to facilitate market access for distributed generation.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	N/A
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Electrification together with higher share of renewables in electricity production
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Rail - Water

### G.2.1. Please explain your answer -open reply-(optional)

Electrification of transport should, similarly to biofuels' development, be based on sustainable energy sources. PV can play an important role in the development of electric vehicles using sustainable electricity. In addition, electric vehicles, if supported by an appropriate recharging infrastructure, could represent an interesting decentralised electricity storage network for PV electricity.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	
H.1.1. Please explain -open reply-(optional)	

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	Yes
I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	N/A
I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-	N/A

(optional)	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?</p> <p>-single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>The EU should promote an ambitious regulatory framework for renewables in these regions. It should notably build on an exchange of best practices and a capacity-building support through the neighbourhood policy.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?</p> <p>-multiple choices reply-(optional)</p>	<p>System integration</p>
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>On the road to 2050, a full implementation of the priorities identified in the SET Plan is the first step. The R&amp;D Roadmap of the Solar Europe Industry Initiative (SEII) defines all the necessary technology improvements needed to ensure that PV becomes a mainstream energy source by 2020. The financial commitment from the EU budget (through FP7 calls) is however currently far below the identified needs. EPIA is therefore strongly supporting an increased budget for the financing of the Solar Europe Industrial Initiative in the context of the next multi-annual financial framework (and notably through the Horizon 2020 instrument). A dedicated budget line (within or outside Horizon 2020) for each of the SET-Plan renewable technologies would in addition give much more visibility to the sector. In addition, a greater involvement of Member States (through ERA-NET) is necessary, together with innovative financial instruments.</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?</p> <p>-open reply-(optional)</p>	
<p>J.4. How successful do you consider the existing measures have been and which have</p>	<p>Not successful</p>

been the main drawbacks? -single choice reply- (optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

<b>IDENTIFICATION</b>	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Stadtwerke München GmbH, Beatrix Widmer, widmer.beatrix@swm.de
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Germany
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Investors need planning liability – beyond 2020. New targets can contribute towards a technical and local support.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
a harmonised European support system and transferability	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables	For selected technologies/circumstances/markets (please specify)

post 2020 given their expected greater penetration? -single choice reply-(optional)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support makes sense, if it contributes to bring RES towards the market or where there is a political will to do so. The following example of Germany shows that there can be an end for necessary support for certain technologies by 2025. The EWI/Prognos/GWS report published in 2010 regarding the energy scenarios of the German Federal Government, contains assumptions for the development of renewable energy investment cost from which the electricity production costs can be derived for newly constructed wind turbines and PV systems. In the period under consideration (here: between 2020-2030), the merit order is still dominated by thermal power plants. At an annual real increase in the stock exchange price for electricity by 2%, onshore and offshore wind turbines can therefore exist from the mid-2020s on the market without subsidies, since the current price exceeds the production costs. PV plants are (significantly) still far away from a marketability despite declining production costs. (see graphe in position paper)

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects

Please specify how to make support schemes more market-oriented -open reply-(optional)

A quota system leads towards a cost-efficient system as the adjustability is faster.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Adequate targets per sector can easily be chosen in a quota system. Heating and cooling can be integrated in a common way. Transport sector should be included, too (as well as into the ETS).

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States (if so, please explain how this could be achieved, e.g. through convergence of national schemes, compensation mechanisms or other): Quota system...

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

- Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other - Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

Grid connection rules - Cost-sharing rules - Balancing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Article 16 of the Directive lays down a number of binding rules related to network development, access and operation in order to ensure that electricity from renewable energy sources may access the electricity network freely. General remark: This section discusses the grid access, i.e. both: transmission system AND distribution system. Most important element is a fast grid expansion.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

- Priority dispatch and obligation on TSO and DSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

Enable renewable generators to offer balancing services and power quality (e.g. Voltage (U)) to TSOs and DSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk – producers of renewable energy should operate without any aid
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility
Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand -open reply-(optional)	
- Dedicated arrangements to reward availability of generation capacity: so far too much regulation, no competition. - Favourable regulatory treatment of storage operators, however no storage technology to be operated on competitive costs is close to the market in short-to mid-term (except pump storage). - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand): Yes for interruptible demand, no for others. - Current market arrangements are sufficient to reward flexibility: This implies a sufficient grid extension (national, European) on the high voltage level. Following this assumption and taking today's knowledge the European-wide generation mix is able to cover all requirements on flexibility for the next 20 years. Further steps depend completely on the future of the world-wide climate arrangements, i.e. will they be binding and approved by all the big producers of greenhouse gas. In this constellation, national and European targets for climate protection can be derived and take an effect on the generation mix rewarding flexibility. In this context, the intensively discussed capacity market could be an option, whatever designed.	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

- The current wholesale market model based on short-run marginal cost pricing is appropriate: Yes without any modification until 2030. - The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which): Yes between 2030-2040. Later on and depending on the degree of construction level of renewables (which again depends on binding climate protection targets) a capacity market for covering flexibility could be necessary for acting complementary to renewables. - Wholesale markets would have to move to reflecting full costs: Could be necessary from 2040 on.

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Other (please specify)
Please specify which other barriers -open reply-(optional) - energy efficiency: the lower the demand the easier to reach a high renewable share - combined heat and power with a share of renewables	
F.2. What pathways do you consider to be the	Geothermal - Solar thermal

most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

First of all, energy efficiency must be addressed. Thereafter we need an integration and combination!

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

- E-mobility in general – it is easier to produce and transport renewable electricity than biofuels and avoids additionally the food/fuel discussion.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added -open reply-(optional)

Amending toward quota system and increase cost-efficiency.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster

cooperation with third countries in this area?

-single choice reply-(optional)

J.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

J.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

We welcome and support the NSCOGI. It could be a start or „prototype“ for a European support system and should be further developed. However there are still many open questions (where should be the feed-in point? Who would be responsible for delays? How high is the maximum return?).

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Market design. Network expansion and new interconnectors, quota system....

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

too slow

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Irish Wind Energy Association, mary@iwea.com
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Ireland
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
<p>Since 1997 the EU has had a successful RES policy which has enabled significant progress towards the EU's objectives of reducing GHG emissions, ensuring security of supply and improving EU competitiveness while creating global leaders in renewable technology. Ambitious targets are at the core of the EU's policies to promote RES energy, and are vital for making the transition from a fuel importing EU to a technology exporting one. RES targets are the proven approach to develop a broad range of technologies reducing GHGs and should be continued to 2030. The EEA concluded in 2011 that reductions in 2009 GHG emissions was due to the recession and "sustained strong growth in renewable energy". 2050 is only one investment cycle away in the power sector. It is key that there is certainty for investment post 2020. The most effective way to do this would be an ambitious 2030 RES target. It should be noted that coal and gas will only have a role in a 2050 timeframe if CCS is commercialised and competitive, which is unlikely to happen before 2030, if ever. That makes promoting a broad range of renewable energy technologies, infrastructure and energy efficiency the three no-regret energy policy options for Europe. Wind power offers additional environmental benefits, compared to conventional fossil and nuclear plants.</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public

procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

- a properly functioning ETS - an Emissions Performance Standard - creation of an EU-wide well functioning electricity market - A successful renewable energy framework requires effective policies to remove barriers to grids access and barriers in the form of administrative procedures, while encouraging public support.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

The objective of the wind energy sector is to be competitive in a future level playing-field fully liberalised electricity market, and to deliver the benefits of wind energy in the most cost-effective way. The industry is committed to bringing down the cost of wind energy and already has a positive track record in this respect, namely thanks to continuous R&D efforts. The trend toward larger and more cost-efficient turbines has led to a significant decrease in the costs of wind power onshore while increasing full load hours, turbine life time as well as improving grid stability. In addition, economies of scale – driven by stable investment frameworks in the European markets - and improved concepts for transportation, operations and maintenance will play a major role in making wind energy more competitive towards 2020 and beyond. The success of onshore wind in bringing down costs will be replicated offshore in the coming years unlocking the exploitation of Europe's largest indigenous and eternal energy source. In comparison with other power generating technologies, particularly nuclear and fossil fuels, onshore wind energy is rapidly improving its competitiveness and is the lowest cost zero-carbon technology available. Lowering and eliminating barriers to RES deployment and long-term, stable investment conditions reduces risk and costs and therefore the need for support.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

An ambitious, yet credible, long term RES target of 45%, supplemented by legislation on grid access, planning, intermediate targets, overseen by the European Commission, is critical to ensure that the industry can develop a sustainable economic model and business case going forward. RES financial support mechanisms should be designed to deliver more convergence, or made more compatible, as well as being highly effective and adapted to technology diversity and maturity. If "more market oriented" means responding to price signals, support mechanisms should be increasingly exposed and should encourage greater market responsiveness as RES technologies mature and penetration levels increase. In a well-designed and functioning market, producers should take an active part in making the market as efficient as possible, as is increasingly the case with wind energy in Denmark, Spain and Germany. RES cannot and should not be seen in isolation from the rest of the power market, but it must be recognised – as it is in the introduction to this consultation – that renewable energy support mechanisms are "necessary due to a number of market failures and imperfections". If these market failures could be addressed effectively, the need for support to newer, cleaner and smarter renewable energy technologies would significantly decrease. Market compatibility is not only something to aim for when it comes to mature renewable energy technologies – but for the entire European power market

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply- (optional)	No
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of credible and certified training and qualification
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
<p>The main issue with administrative procedures is not so much definitive refusals, but the lack of binding deadlines, delays and lack of clarity and guidance in the procedures. Based on the EWEA WindBarriers survey, the average administrative lead time in the EU is 42.32 months for onshore wind energy projects, and ranges from 18.06 months to 58.03 months. The EU average for grid connection lead time is 25.8 months for onshore projects, and ranges from 2 months 46.6 months. The average total lead time in the EU is 54.8 months for onshore wind energy projects, and ranges from 25.88 months to 76.08 months. These lead times act as a serious impediment to the development of wind projects in the EU. But this is also the case for the lack of harmonised rules for grid codes. The way in which grid code requirements for wind power in Europe have developed has resulted in gross inefficiencies and additional costs for consumers, manufacturers and wind farm developers. Currently the European wind industry has to contend with a high degree of diversity in technical requirements in more than 30 differing National Grid Codes from a variety of countries. These requirements are often not sufficiently clear and are not always technically justified nor economically sound from the point of view of the power system. Such a diverse range of requirements drives up costs. In most Member States there is a lack of certified experts and of trained civil servants to handle the expected applications</p>	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
<b>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</b>	
D.1. Do you consider that any of the following national rules and framework conditions will still	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Whether the above mentioned items still play a major role after 2020 depends on how EU legislation is implemented and applied in MS. It can be expected that grid connection requirements will still create problems by that timeframe as the ambiguity and diversity of grid connection requirements for RES does not seem to be properly tackled by the current Network Code on grid connection nor at national level by the TSOs. EWEA has proposed a “structural harmonisation of grid connection requirements”, which we see as one of the essential preconditions to achieving high penetration levels of wind power in the most cost-effective way, with due regard to power system stability. [http://www.ewea.org/fileadmin/ewea\\_documents/documents/publications/position\\_papers/11092\\_7\\_EWEA\\_Position\\_Paper\\_Towards\\_European\\_grid\\_connection\\_requirements.pdf](http://www.ewea.org/fileadmin/ewea_documents/documents/publications/position_papers/11092_7_EWEA_Position_Paper_Towards_European_grid_connection_requirements.pdf) With regards to balancing and curtailment regimes, best operation practices between TSOs must be further developed and properly shared at a European level. The dedicated RES Control Centre CECRE in Spain is a good example: as well as relying on the most sophisticated forecast tools for wind power generation which help minimising the need of curtailments, the centre allows for reduced imbalances and a cost-efficient operation of the power system with high shares of variable RES like wind. It is well documented that pooling of generation units and shorter gate-closure times have significant system cost-reduction effects.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

Obliging TSOs to develop grid infrastructure is not exclusively triggered by increased RES penetration levels, but also by the need to create an Internal Energy Market (IEM) to the benefit of consumers and for security of supply reasons. The grid is a common good and should continue being so, therefore shallow network connection charging regimes should continue to apply. Depending on how far the creation of a truly liberalised IEM will progress by 2020 priority access and dispatch for RES might still be necessary. Structural shortcomings in electricity markets should be addressed such as regulated prices, a high degree of market concentration and vertical foreclosure. Priority grid access and dispatch are a compensation to new entrants given there is no functioning internal energy market. They are necessary in the absence of effective competition and in view of the historical development of power generation – vertically integrated national incumbents having developed their power generation portfolio enjoying the advantages of a natural monopoly and passing on costs and risks on to the consumer bills. They are especially justified for non-dispatchable renewables like wind and solar. Were all the electricity markets to function properly and were they more adapted to variable RES ( incl. shorter gate closure time in intra-day and day ahead), wind's low marginal cost would ensure that all wind generated electricity would be sold in the market ahead of any other technology.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or

specific rules for variable generation?

-open reply-(optional)

IWEA agrees that RES should respond to market price signals but is concerned that the premise of the question seems to imply that this is not the case today. Making all RES respond to market price signals at all times won't alter the decision for RES-E producers to produce or not, to any detectable degree. This ideological battle would change little in the merit-order: apart from extreme cases of negative prices, producers of RES electricity will always feed into the grid because fuel and carbon costs are zero, i.e. there is nothing to save from disconnecting your power plant. After 2020 RES producers will certainly be exposed to balancing responsibility towards TSOs. The extent to which wind farm operators can be in balance is affected by 3 factors: functioning and liquidity of wholesale markets, cross-border interconnectivity and forecast horizon. In future regimes where balancing costs must be borne by wind farm operators, regulators should ensure that these costs are transparent, representing only the real cost of balancing. The characteristic load variations, the pattern of demand compared with wind power variations, the operational routines of the power system (eg gate-closure times) and the accuracy, performance and quality of the forecast must be taken into account. RES producers should not bear the costs of system operation and maintenance. That has never been the case in history and there is no reason why this should change in the future.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Only investments which meet the key feature of flexibility will remain commercially sound investments in the future. The business case for slow-ramping, inflexible power plants will continue to decrease as increased price fluctuations and lower average spot market prices will continue to dampen investors' appetite in such assets. But flexible power plants where investments can be recovered in a more variable system over fewer running hours, e.g. gas power plants, will remain. Besides that enhanced market integration and a bigger market place in general will help alleviate economically unsustainable price variability, such as negative prices or excessive price peaks. This should allow for energy-only market mechanisms to continue being a sustainable market form where investors can recuperate their capital costs for the foreseeable future. Secondly, it would avoid externalities (eg free riders) and additional market distortions with capacity payments. Any market arrangement to enhance flexibility must be technology neutral and should leave it to the market price signal to determine whether power generation (supply), the demand side or storage technology provides the flexibility. To ensure investor's interest in power generation and tackle a potential "missing money" problem in the energy sector, a less market-distortive solution capacity markets could be provided by new market forms like for ancillary services where all generators, including renewables could participate.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

-single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing

energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with third countries is welcome but it must not undermine national and EU renewable energy targets. This should focus on technology development in third countries, on the promotion of a stable regulatory framework for renewables, based on the positive experiences from the EU frameworks, as well as the development of renewables-friendly grids and market design. In its immediate neighbourhood the EU should push for the principles of the 2009 renewables directive (including ambitious targets) and the IEM legislation to be applied, notably by using the framework of the EU. For emerging markets outside of the EU, EU-led bilateral negotiations should be prioritised. Offensive trade policies to open non-EU markets to allow European companies to participate in those markets free of restrictive trade policies. Agreements between the EU and third countries should be prioritised as a tool to develop renewables in neighbouring countries and in emerging markets. The latter are the most effective tools to create market opportunities for European companies. By developing new markets European companies can gradually increase the efficiency of their supply chain and therefore improve their competitiveness against conventional energy sources. Multilateral agreements on the liberalisation of trade in renewable energy goods and services could foster cooperation with third countries and benefit EU first movers (technology forums, industrial agreements).

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

No (explain why)

(optional)

Please explain why -open reply-(optional)

There should be a careful approach when assisting infrastructure projects outside the EU. Project support for transmission infrastructure between the EU Member States and third countries should be provided only with a clear added value for the European energy market. This is even more true for projects within EU Member States to facilitate imports of externally produced electricity. Indeed, these must be assessed in view of the vast and mostly still untapped wind and solar resources, as well as the very inefficient and insufficient conditions of electricity infrastructure networks, within the European Union.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Such cooperation with the Southern Mediterranean countries could represent an interesting opportunity for European renewable energy companies. This cooperation should not undermine EU and national renewable energy deployment and achievement of targets.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

The North Sea Countries Offshore Grid Initiative is a successful example of regional cooperation focusing on a common issue, the North Sea offshore grid, which cannot be solved at individual Member States' level. However, although effective, this working group remains ad hoc and cross-border cooperation is limited to a certain time frame. While it is good to have flexible and result-oriented working groups, it would be beneficial to include them in a more long term strategic vision of the sea basin. The European Commission should support fully such initiatives and promote them in regions where onshore and offshore wind energy development would benefit, such as in the Baltic or Mediterranean.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The EU has renewable and climate targets for 2020 and the SET-Plan focuses on the development of selected number of technologies to address that. The Commission's Energy Roadmap 2050 highlights that wind energy is the key electricity generating technology in all scenarios in 2050. Since the 1st EU research framework programme in 1983 wind energy received about €350 million, compared with more than €12 billion for nuclear research. The Horizon 2020 proposal is also far from enough to fund non-nuclear SET-Plan

technologies. The first and foremost issues therefore are clear European commitments in terms of regulatory stability post-2020 and financial support for research and innovation activities. The EU should develop the following measures: An EU programme similar to the SET-Plan for the post-2020. Creation of dedicated individual budget lines to address the public funding support for the development of the R&D activities of the key energy technologies, in particular wind energy. This would allow industrial initiatives to prioritise their implementation actions according to their different maturity levels, it would help avoiding competing priorities, would stimulate individual industries to actively participate and to co-finance and would improve transparency and accelerate the process towards concrete results. Greater Involvement of the EIB and other public banks. Optimised and stable national support schemes which are important in development of energy technologies

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

The Energy Roadmap 2050 has indicated wind energy as a the key electricity source for the coming decades, however, there is no clear regulatory framework covering the period after 2020 which would sustain the viability of the wind industrial initiative and would stimulate the development of wind technology. IWEA calls first for a proper implementation of the existing industrial initiatives with appropriate levels of funding as well as certainty for funding in the form of budget lines.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

The launch of the European Energy Programme for Recovery (EEPR) in 2009 with dedicated EUR 0.5 billion for innovative offshore wind projects was a win-win situation: the Commission received more good project proposals from the wind industry than it was able to pay - this shows that the wind industry is ready to take huge steps in developing its technology and increasing market penetration. The launch of the SET-Plan in 2010 was a very successful measure in providing the wind industry a clear message to develop the technology. The Wind Industrial Initiative team has developed a 2010- 2012 work programme (in line with the SET-Plan Roadmap) highlighting the technological development needs which were only partially taken into consideration by the European Commission and published in several FP7 calls. However, the activities covered in the FP7 calls and the funding levels are far from enough to meet the wind energy potential. The main drawbacks for wind industry are the missing clear EU financial commitment to help in development the technology and the absence of the post-2020 regulatory framework.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Linking the results to be achieved with assistance in technology development is absolutely necessary for both the EU and the Industry. The EU's assistance in technology development could be best expressed through ensuring long term regulatory stability with concrete targets and dedicated public funding for research and innovation activities. From the industry perspective European targets and supporting measures would be extremely important in developing risky yet promising technologies, like offshore wind. Such a commitment from both sides regarding the common target would make both sides responsible for the results. In addition, a 2030 European binding target for renewables is extremely important to attract the private capital to invest in development and deployment of the new technologies.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Bellona Europa, eivind@bellona.org

<p>2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)</p>	<p>NGO</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>Belgium</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>Yes, a combination of EU and sectoral level targets is appropriate</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	<p>It is politically unrealistic to achieve a sufficient tightening of the ETS to drive power sector decarbonisation. In addition, the volatility of EUA prices puts a significant discount factor on decarbonisation investments. Due to the “carbon leakage” risks in most manufacturing industries, it will be comparatively easier to implement more ambitious decarbonisation measures in the power sector. What is important is that any post-2020 targets are binding and ambitious. This combination will be easier to attain if greater flexibility is left to Member States than under the current renewable energy sources (RES) directive. That is why we believe national power sector decarbonisation targets for 2030 and later could be a constructive way forward – i.e. applying the model of the RES directive to all decarbonisation technologies for the power sector. In addition to power decarbonisation targets, other targets should be set for transport, heating and cooling. The current debate around the achievement of biomass-dependent transport targets under the RES directive testifies to why a separation of the electricity and transport would be preferable.</p>
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Continue to ensure sustainability and scalability</p>
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>Yes</p>
<p>B.2. If renewable energy sources require support post-2020, how do you think this can</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects</p>

<p>best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)</p>	
<p>Please specify how to make support schemes more market-oriented -open reply-(optional)</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>N/A</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)</p>	
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy</p>	<p>None of the above</p>

production after 2020? -multiple choices reply-

(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

All the mentioned rules will be necessary and proportionate in an European context beyond 2020. Beyond 2030, and assuming that renewable binding targets are set according to the European energy roadmap, (renewables will have a more dominant share in the electricity mix ; it can then be expected that several of the grid specific rules will no longer be necessary as they might give an unjustified competitive advantage and also be a disincentive towards other clean technologies such as CCS, particularly carbon negative technologies (based on biomass cofiring in coal power plant fitted with CCS). If the electricity generated by such CCS bio-coal plant is badly ranked in the priority order dispatch, it will not be an incentive to develop carbon negative technologies. It should be noted that the proposal for a Roadmap 2050 foresees that all fossil plants are fitted with CCS by 2030. The temptation is therefore to provide priority access grid and priority dispatch to all electricity producers that produce renewable or low carbon electricity, with the risk that the multiplication of beneficiaries reduces the value of the advantages conferred. In this context it is therefore important to anticipate possible conflicts and set "priority rules" between renewable electricity and electricity from high efficiency cogeneration. Priority access and dispatch rules should be designed as a coherent set of rules.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Increased availability of storage - Other (please specify)

Please specify which other measures -open reply-(optional)

Flexibility can also be reached by implementing technologies that allow the switch of energy carriers (for example from electricity to bioenergy and opposite). This is particularly relevant within the heat sector. The power intensive industry can also provide short term and long term flexibility: they can reduce their production, hence reduce their consumption without significant technical or economical consequences and free up electricity for the market.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

It is difficult for renewable producers as wind and solar energy producers to predict in advance their production. For Bellona, this specificity should be sufficient to justify that producers of intermittent energy do not bear the same obligations in terms of balancing risks and notification duty than conventional producers. If not, this would also limit their guaranteed right of access to the grid.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Smart grids and smart meters/smart appliances can provide flexibility by helping consumers to respond to market signals for example by reducing consumption or storing electricity in electrical vehicles.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)

Please specify which instruments incentivising investment -open reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Electrification together with higher share of renewables in electricity production

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

The barriers against a stronger uptake of renewable energy in transport vary between the different sectors of transport and between different countries within the EU. For many of the sectors (road for goods, water and air) sustainably produced biomass is today the most promising alternative for increasing the amount of renewable energy within the sectors. In addition to increased production of biomass there is also a need for technological improvements on internal combustion engines regarding mixes of high percentages of biodiesel, especially under cold conditions. Further technological development will also be required for the ICE.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? Yes, sustainability criteria should apply to both all biomass and fossil fuels

-multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely

wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Silvia Melegari European Panel Federation (EPF) [silvia.melegari@europanel.org](mailto:silvia.melegari@europanel.org)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Belgium

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable

Yes, an indicative and non-legally binding target at EU level is

energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The introduction of mandatory targets has had a number of unintended consequences, in particular related to the raw material situation in the woodworking sector. In order to achieve the targets set by 2020, nearly all member states have, in their national renewable energy action plans, put a strong focus on the use of biomass. As wood is one of the most commonly used and targeted biomass sortments, a fierce competition has grown between operators in the woodworking and the energy sector. As the latter in most cases have been able to benefit from subsidies promoting the use of renewables, this has led to a strong increase in wood prices and further accentuated unfair competition leading to the closure of a substantial number of panel manufacturing plants with corresponding job losses.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

EU policy should be focused on the use of renewable materials able to mitigate and reduce environmental impact rather than financing renewable energy sources. Wood crucially contributes to reducing climate change by storing carbon in wood products such as furniture, components and structural timber. Every cubic metre of wood used as a substitute for other building materials reduces CO2 emissions to the atmosphere by an average of 1,1 t CO2. If this is added to the 0,9 t of CO2 stored in wood, each cubic metre of wood saves a total of 2 t CO2. Based on these figures, a 10% increase in the percentage of wooden houses in Europe would produce sufficient CO2 savings to account for about 25% of the reductions prescribed by the Kyoto Protocol.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	No
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B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	
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B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
---	---

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	
--	--

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Additional response regarding Q B1 and B7 B1No: continuation of financial support for biomass in circumstances/markets where the support mechanisms are distorting the markets for wood raw materials (see also specification given for question 5). Government intervention in a given market as price ceilings, price floors or tax subsidies very often create market distortions. B7 Support schemes for renewables have and are strongly distorting the markets for woody biomass. For this reason the European Institutions are urged to

immediately elaborate policy guidelines which ensure a coherent approach toward developing renewable energy policies while guaranteeing wood availability for the panel and woodworking sector.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, all support schemes distort competition to a similar extent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the

Other (please specify)

flexibility reserve of the system: -multiple choices reply-(optional)	
Please specify which other measures -open reply-(optional)	
Wind energy off shore	
<b>E. MARKET INTEGRATION</b>	
E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk – producers of renewable energy should operate without any aid
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
EU Member States put a lot of emphasis on biomass rather than other energy sources to achieve their goals. Member States did not carefully investigate on the achievability of their plans!	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Limits of availability of sustainably produced biofuels
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
G.2.1. Please explain your answer -open reply-(optional)	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels

### H.1.1. Please explain -open reply-(optional)

Any fuel should comply with basic sustainability requirements. For biomass for energy derived from forests, this has to comply with the same sustainability requirements as demanded for other forest-derived products and material. Sustainability has to reconcile and consider the three pillars: economy, ecology and social aspects. Due care should be taken to ensure that suitable wood assortments are used first to produce wood products and that the “cascade” principle is applied. Furthermore the EU should invite National Governments to create more wood availability (for examples; short rotational plantations, wood mobilisation from forests, etc) to be used as fuel in power stations and heating systems and lower the pressure on wood demand for the wood-working sector. The European wood-based panel industries demand to all the EU Institutions to make mandatory the “principle of the cascade use of wood”, i.e. first material use followed by energy use following disposal.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
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I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of

Industrial manufacturing and supply chain

renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?  
-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

The woodworking sector already plays an important role as producer and user of renewable energy based on production by-products and bark. It supports the trend towards a new generation of biofuels but insists that this should not impact the traditional users of wood as raw material.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

Ulrich Leberle, Confederation of European Paper Industries, u.leberle@cepi.org

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?  
-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets

Yes, an indicative and non-legally binding target at EU level is

must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

When the milestones from the Commission 2050 roadmap to a low carbon economy and the 2050 Energy Roadmap trajectories would be translated into EU Economy wide CO2 targets, the choice comes forward between markets and measures to secure these targets to be met. The more stringent these overall CO2 targets become, the more flexibility the member states need to choose between the different options. In this respect mandatory renewable targets will not lead to the most cost efficient solutions and should not be put in place. Targets are only a start of measures, which bring the real changes and only an indicator for markets, providing a view on future policies. These functions can be met with indicative non-binding targets. The need for flexibility further signals that sectoral sub targets are not appropriate. Targets must not lead to support for inefficient technologies or installations. Sectoral targets might have this impact, for example, a sectoral target on electricity would not promote the CHP installations, which are among the most efficient technologies. . Any form of targets leading to demand-side measures need to be accompanied by measures to ensure the supply. Particularly for bio-energy, the demand-side measures must be balanced by measures ensuring the supply of raw materials.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Other (please specify)

Please specify which other policy elements? -open reply-(optional)

CEPI believes that Enhanced focus on R&D to bring down the costs of renewables technologies should be stimulated already on the way to achieve the 2020 goals on RES and further actions are to be taken to develop policy tools and mechanisms for the stimulations for RES after 2020. In this view further actions are to be taken in the field of ensuring the sustainability and scalability of RES. support to research and development in the area of energy and resource efficiency should be given. In the case of bioenergy, the most important tool is the common EU biomass supply policy. Only the common biomass supply policy can secure investment certainty and create a competitiveness of the European industry relying on the biomass supply. Target-setting alone leads only to demand-side measures that can significantly distort the supply.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Looking towards 2020 we believe that for selected technologies/circumstances/markets financial support will still be needed. Support should be phased out over time towards 2020. Financial support post 2020 should be aimed at R&D&I on new and efficient technologies. Environmentally harmful subsidies must be stopped, e.g. the support to co-firing wood with coal in existing power plants with extremely low efficiency, which is a waste of resources and energy.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Combination of investment in R&D&I and phase out support schemes over time, see answer to question above Explanation for the

question below: For bio-energy, extremely diverging support levels between MS lead to distortions in the supply of biomass in neighbouring countries and shortages in supply for biomass dependent industry and energy installations. To avoid these distortions, a coordinated approach to material efficiency and the cascading use of biomass is necessary. Financial support could be aimed at the development of new transmission systems and linkages with production of renewables in third countries (electricity imports).

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Support schemes are and can be country specific. Extremely diverging support levels should however be avoided. For bio-energy, extremely diverging support levels between MS lead to distortions in the supply of biomass in neighbouring countries and shortages in supply for biomass dependent industry and energy installations. To avoid these distortions, a coordinated approach to material efficiency and the cascading use of biomass is necessary. Financial support could be aimed at the development of new transmission systems and linkages with production of renewables in third countries (electricity imports).

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY

## SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

Grid connection rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Following the existing Directive on RES the grid connection rules in MS offer sufficient support and grid connection priority for RES, but in a lot of MS there are obstacles regarding the curtailment regime. In many cases RES are often cut of as the grid is not able to take or transport the electricity in sufficient quantity. In order to avoid those obstacles after 2020 grid connections need to be strengthened by additional lines; otherwise the production of RES will be curtailed even more. Second very important aspect is the development of storage capacities and new storage technologies.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

As mentioned above, there is a need to further develop the transmission networks and at the same time guarantee the priority access. At this point next to the RES, priority grid access and dispatch will have to be guaranteed also for combined heat and power installation, being it based on (natural) gas or RES.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Other (please specify)

Please specify which other measures -open reply-(optional)

we see that more flexible back-up solutions will have to be developed in parallel with the infrastructure development and availability of demand response capacity. In practical terms this would mean that enough interconnection capacity will have to be developed going hand in hand with standardisation and harmonisation rules as well as higher level of promotion for RES.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other barriers -open reply-(optional)

Concerning bio-energy, there could be a better uptake of renewable energy in heating and cooling if a stronger emphasis was given to the mobilisation of feedstocks, both from agriculture and forestry. CHP is a very efficient way to increase renewable heating and cooling, but in many cases, the infrastructure is not sufficient to implement CHP.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal - Other (please specify)
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Please specify which other pathways -open reply-(optional)

the growth in the share of renewable energy in heating and cooling from biomass is constrained by the limited availability of sustainable biomass that is not needed as food or fibre. Some RE sources (air, sun, water, geothermal) are freely available and should be further developed, whilst biomass has a price and may be subject to market distortions/unfair competition. The emphasis in the future should be on solar and geothermal.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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There is a strong interaction: Efficiency criteria must ensure that biomass is used in a resource efficient way. This will make available additional volumes of biomass for use in heating and cooling. On the other hand, energy efficiency in the energy consumption is also reducing the overall needs.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)

Yes, sustainability criteria should apply to both biomass (liquid and solid) and fossil fuels, ideally. However, for biomass they should be introduced as soon as possible, since investors need security of planning and supply chains are being established now. For solid biomass they should be based on the existing tools available to verify the sustainable management of forests. The absence of sustainability criteria on fossil fuels should not serve as an argument for not introducing sustainability criteria for solid and gaseous biomass. Fossil fuels cannot be sustainable by definition and their use is not promoted. However, there should be a level playing field between users of renewable feedstocks for energy and for products and users of fossil feedstocks for energy and products with respect

to the legality and sustainability of their supply. Additionally there should be criteria that refer to energy and resource efficiency and to support of the cascading use of biomass, i.e. using the biomass where it creates most jobs and added value first, before using it as a source of energy at the end-of-life.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

The security of supply and energy cooperation must include a biomass supply policy, including from within the EU and from partners outside the EU.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be

Other (please specify)

the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

Technology performance in general can still be further improved, resulting in good cost competitiveness and lesser need for support. The main obstacles for further deployment of bio-energy, especially biofuels and bio liquids will be the price for biomass. In that respect two aspects will play a major role. For further deployment and development in these areas EU will have to put policy measures in place to guarantee enough biomass, good quality biomass at affordable prices to keep EU PPI competitive. At the same time we need to secure cascading use of biomass including recycled cycles in industrial processes (collection, mobilisation and supply of the raw material).

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The main obstacles for further deployment of bio-energy, especially biofuels and bio liquids will be the price for biomass. In that respect two aspects will play a major role. For further deployment and development in these areas EU will have to put policy measures in place to guarantee enough biomass, good quality biomass at affordable prices to keep EU PPI competitive. At the same time we need to secure cascading use of biomass including recycled cycles in industrial processes (collection, mobilisation and supply of the raw material). An additional possibility are policies to promote short rotation forests or other highly productive biomass sources

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Biomass and black liquor gasification technologies, aiming at further increasing efficient use of biomass should be supported to come to their potential. Waste water treatment systems can be further optimised to provide biogas replacing natural gas. Furthermore, the efficiency of incineration systems for residues and wastes can further be improved.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Successful but drawbacks. In the area of biomass we do not consider measures as being very successful especially in the area of the given subsidies and support for burning biomass in power plants with very low overall efficiency not considering the basic principles of Resource efficiency and cascading use of biomass. Technology policies should focus on providing much more efficient solutions for turning biomass into energy.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

More important would be to decide about assistance based on thoroughly evaluated effects on the whole society not just on energy production. This should be closely linked to the evaluation of the impacts on industries depending on the same raw material.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

Zentralverband der Elektrotechnik- und Elektronikindustrie e.V. (ZVEI),  
kuehnke@zvei.org

-open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Germany
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Der weitere Ausbau Erneuerbarer Energien ist aus Sicht des ZVEI wesentlicher Bestandteil auf dem Weg zum Energiesystem der Zukunft, an dessen Ende ein optimales Zusammenspiel erneuerbarer und dezentraler Energieerzeugung mit intelligenter Energieverteilung sowie effizientem Energieverbrauch steht. Der ZVEI begrüßt daher das von der EU-Kommission im Rahmen dieser Konsultation geäußerte Ziel, den Erneuerbaren auch zukünftig ein hohes Gewicht beizumessen. Für verbindliche Zielvorgaben - auch nach 2020 - sprechen aus Sicht des ZVEI dabei die bisherigen Erfahrungen (gerade auch im Vergleich zu den unverbindlichen Energieeffizienzzielen). Es hat sich gezeigt, dass derartige Vorgaben Innovationen anregen und Investitionen voranbringen. Auf der anderen Seite stehen die hiermit einhergehenden Kosten. Um diese auf Dauer in einem volkswirtschaftlich verträglichen Rahmen zu halten und zugleich die Akzeptanz der Erneuerbaren Energien nicht zu gefährden, müssen die Rahmenbedingungen fortentwickelt werden, hin zu einer auf Erzeugungstechnologien ausgerichteten und am Ziel der Markt- und Systemintegration orientierten Förderung, an dessen Ende das Erreichen der Wettbewerbsfähigkeit steht. Bei der weiteren Ausgestaltung des Rechtsrahmens für Erneuerbare Energien müssen daher auch - insbesondere nach 2020 - wesentliche marktwirtschaftliche Prinzipien gelten und ist stets das energiepolitische Zieldreieck Versorgungssicherheit, Wirtschaftlichkeit und Umweltschutz zu berücksichtigen.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

Der weitere Ausbau Erneuerbarer Energien macht umfangreiche Netzausbau- und Umbaumaßnahmen erforderlich. Nur mit intelligenten Netzen lassen sich Verbrauch und Erzeugung so optimieren, dass der Anteil der erneuerbaren Energien am Stromverbrauch signifikant steigt. Nur mit intelligenten Netzen kann der Verbraucher zu energieeffizientem Verhalten angereizt werden. Ziel muss es aus Sicht des ZVEI daher auch auf europäischer Ebene sein, diesen Aus- und Umbau der Netze in zeitlichen Einklang mit dem Umbau der Erzeugungsstruktur zu bringen. Der ZVEI begrüßt außerdem sämtliche Ansätze, die Vorbildfunktion der öffentlichen Hand weiter auszuprägen. Nur durch eine derartige Selbstbindung der öffentlichen Hand kann Glaubwürdigkeit und Vertrauen bei Wirtschaft und Bürgern hergestellt werden, um diese wiederum zu eigenen Maßnahmen zu motivieren. Vergleichbar den jüngsten europäischen wie nationalen Bestrebungen in Sachen "energieeffiziente Beschaffung" könnten entsprechende Vorgaben in Sachen Erneuerbare Energien ebenfalls dazu beitragen, die häufig zitierte Vorbildfunktion der öffentlichen Hand weiter mit Leben zu füllen.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Die derzeitige nationale (deutsche) Ausgestaltung enthält kaum gezielte Anreize dafür, den Strom aus Erneuerbaren Energien – zeitlich und qualitativ – bedarfsgerecht zu produzieren und zu nutzen. Dies ist unserer Kenntnis auch in anderen Mitgliedstaaten nicht der Fall. Für den zukünftigen Rechtsrahmen bedeutet dies aus Sicht des ZVEI folgendes: Die bisherigen Wachstumsimpulse dürfen nicht beeinträchtigt werden, das bestehende System ist aber konstruktiv weiterzuentwickeln. Schrittweise sind von Herstellern und Betreibern der Erneuerbaren-Energien-Anlagen mehr Beiträge zur noch fehlenden Marktintegration zu fordern. Ziel muss es daher sein, etwaige Überkompensationen, sofern welche bestehen, zu korrigieren bzw. zukünftig zu vermeiden - bspw. durch Anpassung der bestehenden Vergütungsmodalitäten - um das Fördersystem langfristig marktgerechter auszu-gestalten. Entsprechende Bestrebungen werden bei bestimmten Erzeugungsarten früher (ggf. Photovoltaik), bei anderen Erzeugungsarten später (ggf. Wind Off-Shore) zum Wegfall der finanziellen Unterstützung führen.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the

Length and complexity of administrative procedures relating to authorisation/certification/licensing

provisions of the Directive? -multiple choices reply-

(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Der Ausbau von EE-Anlagen schreitet national (deutsch) gesehen technologieabhängig teilweise stark, teilweise weniger stark voran. Dies hat - neben bspw. technischen oder finanziellen - auch administrative Ursachen (Stichwort: Verwaltungsverfahren, Behördenvielfalt, Zuständigkeiten etc.). Da Art. 13 der EE-RL auch die Übertragungs- und Verteilnetze nennt, gilt es aus Sicht des ZVEI erneut darauf hinzuweisen, dass der weitere (auch qualitative) Ausbau der EE ohne Netzaus- und Umbau ins Leere geht. Entsprechend jüngerer nationaler (Stichwort: NABEG) wie europäischer (Stichwort: EU-Energieeffizienzrichtlinie, Verordnungsvorschlag Leitlinien transeuropäische Energieinfrastruktur) Bestrebungen, müssen daher Maßnahmen ergriffen werden, damit der Netzaus- und Umbau mit dem Ausbau der EE Schritt hält. Die Einführung einheitlicher Genehmigungsverfahren und Ansprechpartner sowie die zeitliche Begrenzung von Verfahren sind zu begrüßen. Auf dem Weg zum nachhaltigen Energiesystem der Zukunft ist außerdem die Bedeutung von Speichermöglichkeiten immens, da diese dazu beitragen, naturbedingte Schwankungen der EE auszugleichen. Speicher ermöglichen die bedarfsorientierte Verschiebung des Stromverbrauchs und sorgen damit, in Verbindung mit intelligenten Netzen, für einen hohen Anteil der Erneuerbaren Energien am Stromverbrauch. Notwendig ist daher die Schaffung von Anreizen für innovative Speicherlösungen (wie Batteriespeicher, Druckluftspeicher, Wasserstoffspeicher, E-Mobility).

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Balancing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Erneuerbare Energien müssen zukünftig technisch besser in das bestehende Energiesystem eingebunden werden. Neben den bislang kaum ausgeprägten Aspekten der Marktintegration gibt es im bestehenden nationalen (deutschen) Rechtsrahmen bislang auch nur wenige Anreize und Regelungen, das Energiesystem dem steigenden Anteil der Erneuerbaren Energien mit zum Teil fluktuierendem Angebot anzupassen und somit deren Integration zu unterstützen. Für den zukünftigen Rechtsrahmen bedeutet dies aus Sicht des ZVEI folgendes: Um zukünftig auf eine bessere Systemintegration der Erneuerbaren Energien hinzuwirken, sind bspw. Regelungen notwendig zum verbesserten Einspeise- und Lastmanagement, zur Weiterentwicklung des Eigenverbrauchs bei der Photovoltaik und dessen Ausdehnung auch auf andere Erzeugungsbereiche, zur Förderung der Prognose-Qualität, zur Senkung des Regelenergiebedarfs sowie zur Öffnung der Regelenergiemärkte für Erneuerbare Energien.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access

D.2.1. Please explain why -open reply-(optional)

Die Systemintegration der erneuerbaren Energien wird durch den fehlenden bzw. zu langsamen Netzaus- und -umbau behindert. An dieser Stelle daher ergänzend Verweis auf Ausführungen zu Frage 2 Section A sowie zu Frage 1 Section C. Darüber hinaus mag es - je nach entsprechendem EE-Ausbaustand der einzelnen Mitgliedsstaaten - auch nach 2020 noch notwendig sein, bestimmte Netzanschluss- und Zugangsrechte zu statuieren.

D.3. With regard to system integration of wind and solar power, what measures do you

Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -

consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)
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Please specify which other measures -open reply-(optional)

Der Ausbau der Erneuerbaren Energien stellt wachsende Anforderungen an das Energiesystem. Die größtenteils nicht beeinflussbaren naturbedingten Schwankungen der Erneuerbaren Energien führen in Zeiten schwacher Last und gleichzeitig starkem Wind bzw. starker Sonneneinstrahlung zum Abregeln der Erneuerbaren-Energien-Anlagen oder zur Abgabe von entsprechend gefördertem Strom ins Aus-land. Das ist weder energie- noch kosteneffizient. Weitere nachteilige Effekte sind Netzengpässe, kurzfristige Preissprünge sowie eine Zunahme der Abhängigkeit von ausländischen Regelenergiemärkten. Um diesen Effekten adäquat entgegenzuwirken, muss zukünftig eine bedarfsgerechtere Einspeisung und angebotsgerechtere Nutzung von Strom aus Erneuerbaren Energien erfolgen. Dies erfordert vor allem Technologien zur Speicherung und Verbrauchssteuerung, zu deren der bisherige Rechtsrahmen bisher aber weder Anreize noch Verpflichtungen enthält. Notwendig sind daher Bemühungen für das Zusammenschalten verschiedener regenerativer Erzeugungsanlagen mit Speichern und Maßnahmen zum Lastmanagement. Aus Sicht des ZVEI sollte der zukünftige Rechtsrahmen demnach Elemente enthalten, die auf die bedarfsgerechte Erzeugung und Nutzung von Strom durch Speichertechnologien (zur Anpassung der Einspeisung an den Bedarf) und Lastmanagement (zur Anpassung des Bedarfs an die Einspeisung) hinwirken. Ergänzend Verweis auf Ausführungen zu Frage 2 Section A, Frage 1 Section C so-wie Frage 1 Section D.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Producers of renewable energy should bear greater responsibility for system costs
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E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Electrification together with higher share of renewables in electricity production
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail - Water

G.2.1. Please explain your answer -open reply-(optional)

Im Individualpersonenverkehr soll der Elektromobilität eine entscheidende Rolle im Energiesystem der Zukunft zu kommen. Hierbei kann die Elektromobilität aber nur dann entscheidende Beiträge zum Klimaschutz beitragen, wenn möglichst viel Antriebsstrom aus Erneuerbaren Energien stammt. Dies ist außerdem für die Akzeptanz der Elektromobilität entscheidend. In Sachen Schienenverkehr liegen noch erhebliche Steigerungschancen darin, diesen weiter zu elektrifizieren (statt auf Mineralöl zu setzen) und hierbei möglichst viel Erneuerbare Energie einzusetzen. Im Bereich der See- und Binnenschifffahrt liegen erhebliche Steigerungschancen darin, durch zwingende Stromanbindungen in Häfen (jedenfalls dort) den klimaschädlichen Betrieb (mineralölbetriebener) Schiffsmotoren einzudämmen und hierbei einen möglichst hohen Anteil an Erneuerbarer Energien einzusetzen.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the

Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

AIE - European Association of electrical and electro technical contractors -  
eschellekens@aie.eu

-open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate - Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
The market should be pushed with binding but achievable targets. However binding targets should be enforced at national level by having appropriate enforcement and control and police the targets.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Better financing possibilities
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)
Please specify how to make support schemes more market-oriented -open reply-(optional)	
Please specify for which technologies (if applicable) to phase out support schemes over time	

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Lack of awareness among the general public is a problem in some countries. Awareness could be increased with accurate information on the technology itself should be better disseminated and promoted. To raise awareness, the RES technologies should be an integral part of the national training and education criteria and programmes for youngsters (in the science or technical classes) in all schools, as basics in technical education schools and for engineers.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy

Grid connection rules

production after 2020? -multiple choices reply- (optional)	
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	
D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access
D.2.1. Please explain why -open reply-(optional)	
D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection
<b>E. MARKET INTEGRATION</b>	
E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Price risk – producers of renewable energy should operate without any aid
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand -open reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Electricity markets should evolve into energy services markets, earning revenues from more than just electricity
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Electrification together with higher share of renewables in electricity production
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing	

energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of infrastructure

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

N/A

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Very successful, no drawbacks

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Novozymes - Identification number : 52195525403-65 -Contact: Emmanuel Desplechin, EDEP@novozymes.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply- (optional)	Denmark
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply- (optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply- (optional)	Yes, a mandatory target at EU level is appropriate - Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply- (optional)	
<p>Mandatory targets associated with penalties for failure to comply are the way to go as the progress made towards meeting the EU's 20-20-20 objectives shows: while Europe is on track for its emissions reductions and its renewables share, it is lagging behind for its efficiency objective, due to the lack of mandatory objectives. Because the main energy demand growth comes from transport, and the GHG emissions steadily increase in the sector, it is equally important to continue with sectorial targets. In addition, a dedicated, ramping-up target for advanced biofuels would secure a market share. In the RED the EU opted to encourage the diversification of feedstocks used to produce biofuels by introducing the double counting rule. However this instrument has failed to boost advanced biofuels deployment. A target for advanced biofuels would reduce investment risk and lower competition with well-established pathways. Mandatory targets will only be effective if combined with high and stable, mandatory penalties for non-compliance, the proceeds of which could be returned to producers or contribute to the financing of demonstration and flagship plants. With this measure the market would settle the price needed to ensure sufficient production. There would therefore be no budgetary implications for the EU or its Member States. The requirements of already effective measure to curb emission in the sector, such as the FQD and emissions requirements for vehicles should be strengthened.</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply- (optional)	Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply- (optional)	
<p>According to the IEA World Energy Outlook 2011, contrary to fossil fuel subsidies, green technology subsidies provide benefits: "well-designed subsidies to renewables (...) can bring long-term economic and environmental benefits. However, the costs of subsidies to fossil fuels generally outweigh the benefits". The Outlook reveals that fossil fuels subsidies amounted USD 409 billion in 2010, with subsidies to oil products representing almost half of these. Aside their amount, their efficiency is largely questioned by the IEA, since "only 8% of fossil-fuel subsidies were distributed to the poorest 20% of the population, demonstrating that they are an inefficient means of assisting the poor". On the other hand, unit subsidy costs for renewable energy are expected to decline, due to cost reductions coupled with rising wholesale prices for electricity and transport fuels, leading IEA to call for more support to green technologies. It is necessary to incentive sustainable renewable energy over fossil energy (be it conventional or unconventional) to ensure that support to renewables can be phased out in the long term.</p>	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater	For selected technologies/circumstances/markets (please specify)

penetration? -single choice reply-(optional)	
Please specify which technologies/circumstances/markets -open reply-(optional)	
<p>Financial incentives can be phased out once a certain market penetration has been achieved, as shown by the US recent ending of the blender tax credit for conventional corn ethanol end of 2011. The journey towards competitiveness is expected to be the same for most European biofuels in the medium term provided mandatory targets are maintained. For advanced biofuels however, without additional policy measures to stimulate investment in scale-up, supply of relevant feedstocks and up-take of advanced biofuels, Europe is missing a unique, sustainable industrialization opportunity within the wider concept of bioeconomy that offers leveraging with biotechnology and thermochemistry based industries. A combination of the incentives below (B-2) will help to overcome the obstacles inhibiting investment into advanced biofuel scale-up and bring advanced biofuel technologies across the “valley of death” between R&amp;D and commercialization – a valley we need to cross to ensure future low cost and EU-based production of advanced biofuels.</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
Please specify how to make support schemes more market-oriented -open reply-(optional)	
<p>• Tax incentives for advanced biofuels could be implemented in the Energy Taxation Directive. • Production support. Initial fixed sales prices or fixed premiums help improve the case for the investors to build the first wave of commercial-scale plants. The costs of such a scheme could be capped by limiting it to a fixed accumulated volume for specific plants. • Feedstock collection and supply-chain incentives. In most EU countries there is no or limited experience with large-scale collection and storage of biomass. Incentives are needed to help establish agriculture and forestry biomass supply-chains and thus reduce feedstock uncertainty and the overall risk of advanced biofuel scale-up investments. It would also promote EU production and self sufficiency. These incentives could be implemented in the CAP revision as part of redirecting the CAP towards sustainable and renewable energy. • A realistic investment support for demonstration and first-of-its-kind commercial-scale plants, i.e. financing of the EIBI. The up-front investments required for building these plants is significant (€50-1000 million) and risky – not least because they will have to compete with existing, non-renewable and energy technologies. The ongoing global financial and economic crisis has made investors and lenders more risk averse. Getting equity and especially debt finance for demonstration of first-of-its-kind commercial scale plants is therefore proving close to impossible.</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with EU-wide benchmark values for support level per technology</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>N/A</p>
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>

Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes whose interpretation remains at the discretion of Member States create distortion because of uneven application, as per the difficulties from the drafting and the double counting mechanism. Giving the benefit of double counting for biofuels that are not really advanced biofuels creates unfair competition with really advanced biofuels pathways and thus delays their industrialization. Thus it is of high importance to keep the double counting support for cutting edge technologies with high potential of industrialization and good market fit. Recommendations -In order to avoid these negative impacts, support to art. 21.2 material should be applied exclusively for advanced biofuels that provide additional benefits, including the diversification of feedstocks, higher yields, and need time to be competitive. These are solely based on cutting edge technologies, new routes and/or new molecules with similar or improved quality. -Residues for biofuel applications will have to be defined uniformly across Europe. A unique, European grid of analysis and associated selection criteria and a positive list of qualifying material, maintained by an independent body may well support this definition. -Even once corrected of its misinterpretations and divergent implementations, the double-counting will remain a sub-optimal mechanism to boost advanced biofuels deployment. Other measures identified, notably a dedicated target, are much more promising.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the

flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Lack of standards - Lack of awareness - Lack of suitable information - Other (please specify)

Please specify which other barriers -open reply-(optional)

Over the past years, barriers for advanced biofuels have moved from technology to policy and financing. Commercialization depends now on political leadership and adequate long-term and stable policies. The issue needs to be addressed holistically in EU legislation:

- Fuel Quality Directive: the limit for ethanol as a petrol component and for biodiesel as a diesel component is respectively set at 10% and 7% by volume, which is insufficient to reach the targets established by the RED. In order to be coherent and allow higher biofuels blend, the FQD needs to be amended. Medium and high blends will also require a dedicated infrastructure to be put in place. In parallel, it is imperative to communicate through the supply chain, down to the end customers, as highlighted by the E10 introduction in Germany.
- Reviewing the Energy Taxation Directive: The EC proposal for amending the ETD aims at ending the volume based taxation of energy products and replacing it with a tax consisting of two elements: a CO<sub>2</sub>-tax based on the emissions and a general energy consumption-tax based on the energy content of the product. This adaption is absolutely necessary to solve the paradox of clean renewable fuels being taxed at a higher rate than polluting fossil fuels. It is also a prerequisite for the successful market introduction of higher biofuel blends. The ETD review also offers the possibility for Europe to readdress a problematic gasoline/diesel split.

G.2. What sectors of transport do you consider to be the most promising for further increasing

Road for passengers - Road for goods - Air

the share of renewable energy? -multiple choices

reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

Given the road transport will continue to rely heavily on internal combustion engines in the long term, biofuels will continue playing a major role in this sector.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

It is crucial to set a level playing field between energy sources (all renewables and fossil) as well as for all energy uses (irrespective of the use, transport, heating and cooling) and therefore sustainability criteria should apply to all. Sustainability criteria should incentivise a continued increase in the performance and sustainability scorecard.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

As per B2, a realistic investment support for demonstration and first-of-its-kind commercial-scale plants (financing of European Industrial Bioenergy Initiative) is needed. The up-front investments required for building these plants is significant (€50-1000 million) and risky – not least because they will have to compete with existing, non-renewable and un-sustainable energy technologies. Compounding this, the ongoing global financial and economic crisis has made investors and lenders more risk averse. Getting equity and especially debt finance for demonstration of first-of-its-kind commercial scale plants is therefore proving close to impossible. Appropriate financing the EIBI is one of the last opportunities not to miss the train of the advanced bioeconomy.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

No, putting a deadline to development runs the risk of depriving Europe of some technologies whose maturation takes longer than others, as well as put off some R&D efforts. Europe has a proven excellence and leadership in R&D. What it now needs are policies to overcome the “valley of death” between R&D and commercialization.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Swedenergy, Cecilia Kellberg, Id-number: 5665831886-97, cecilia.kellberg@svenskenergi.se

2. Are you responding to this questionnaire on behalf

Industry

of /as: -single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Sweden
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The electricity industry in Sweden is very much in favour of a development towards a low carbon society and is committed to contribute to this development. Swedenergy believes that electricity will be key in reducing emissions and a sustainable development. Climate change is probably the most severe problem facing mankind and should therefore be prioritized in relation to other policy objectives. The main challenge for politicians is to put forward the most cost-effective policy in order to achieve the objectives. Swedenergy believes that it is very important that the pathway towards 2050 is decided upon now including an ambitious target for 2030, in order to stimulate investments in the right direction . The EU ETS should be the main driver in the trading sector. The targets and the EU ETS will stimulate development of renewable energy and so will energy taxes based on carbon content, or other equivalent measures, in the non-trading sector. Eventually the scope of the EU ETS could be broadened. Further, the EU ETS will contribute to security of supply by making fossil fuels more expensive. The EU ETS will also stimulate overall energy efficiency. From a Nordic perspective Swedenergy finds no reasons for RES-targets beyond 2020. However, where security of supply is under discussion, it might be relevant to set up targets. New targets can only be accepted if they do not have negative implications on the EU ETS.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources
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## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

In many countries existing support schemes will continue after 2020 as governments already have decided on long-term support. In Sweden the support scheme will continue until 2035, however a cap for the amount of electricity generation supported is already set. When discussing new financial support after 2020, in addition to what already have been decided, it is important to make a clear

distinction between almost mature technologies and immature technologies. For some immature technologies support still will be needed (for example wave energy) but there should be a gradual shift from production support to innovation support. This means that after 2020, RES support should be primarily performed in the form of Research, Development & Demonstration funding.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes -  
Open up national support schemes to cross-border projects -  
Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

In order to integrate RES into the electricity market the support scheme must enable trade of the RES value for target compliance to be separated from the trade of the electricity production and cross border trade of the RES value and electricity. RES-producers should be responsible for selling their power to the market and responsible for the ancillary services needed when entering the production into the market, especially balancing. Support schemes should be more market-oriented, e.g. a common certificates market all over EU, like the one in Sweden-Norway. In this way EU will gain cost-efficiency. But eventually support schemes should be phased out and let the EU ETS do the work. If national support schemes, these should be open for cross border projects (i.e. cooperation mechanisms) If market based support schemes are used, there is no need to decide on when to phase out the subsidy, since the market prices will go to zero when investments in RES are profitable without support.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

When discussing new financial support after 2020, in addition to what already have been decided, it is important to make a clear distinction between almost mature technologies and immature technologies. For some immature technologies support still will be needed (for example wave energy) but there should be a gradual shift from production support to innovation support. This means that after 2020, RES support should be primarily performed in the form of Research, Development & Demonstration funding.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

N/A

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

The answering alternatives do not seem to be applicable for certificate systems, which we see as the most relevant support mechanism, preferably harmonized at EU level in the form of a certificate system.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

There are big differences between sectors in terms of potentials, conditions like price elasticity etc. The focus on specific sectors will definitely not lead to the most cost efficient solution for deploying RES. An EU-wide cross sectoral approach would therefore be preferred.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

On an integrated EU electricity market it is necessary to converge and harmonise support schemes in order to achieve a level playing field. A bottom-up convergence based on joint certificate schemes would be desirable (on the basis of the Norway-Sweden joint support scheme for example). This would have the effect of encouraging development in optimum locations (rather than where support is most generous) and should make costs converge around Europe. In order to curb climate emissions cost efficiently it is important that the renewable power is built at the best locations. But it is also equally important that the intermittent power is not prevented to reach the consumers by grid bottlenecks. When harmonizing the subsidy schemes the issue of grid development and cost sharing needs to be addressed.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Swedenergy considers technology specific or intransparent support schemes to be more distorting than technique neutral and transparent schemes. Schemes offering different conditions for grid access and balancing for RES-technologies than conventional power plants have bigger distorting impact than others. Schemes hindering cross border competition do distort the market. Generally, feed in tariffs are more distorting because they exclude RES from the power market, therefore limiting liquidity and competition on power markets.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Shortened and streamlined permit granting procedures is absolutely necessary to get the renewable energy generation and infrastructure in place for 2020 and beyond. Public acceptance is crucial for getting all the necessary investments in generation technologies and infrastructure to materialise. Many stakeholders in society, not only the energy industry, need to take on this responsibility.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Swedenergy insists that these relevant issues need to be addressed way before 2020.

D.2. Which renewables-specific grid related rules do you consider necessary and

None of the above

proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

An increasing share of intermittent generation will increase the value and need of a well functioning internal wholesale market with proper scarcity signals. These signals become increasingly important to support not only cost efficient transition towards a low carbon economy, but also the adequacy of electricity supply in the interconnected EU system, and in the end the legitimacy of the EU energy policy. It will thus be of increasing importance to support a level playing field, and that RES is fully incorporated on the electricity markets, taking responsibility for own imbalances and dispatched on equal terms as other generation sources.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Increase availability of demand response (smart grids ...) -  
Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

A level playing field is a prerequisite and necessity to improve forecasting of scheduling in order to limit system cost. In addition, to create incentives for innovation in the area of system services and efficient integration of the renewables it is important to reveal and allocate costs where they occur. For the ongoing transition of the energy system to be reflected also in the market design it will be of increasing importance that RES is fully incorporated on the electricity markets. Our general view is that all externalities and costs should be internalized in the price. The general rules for access to the grid and balancing responsibility should be neutral what regards technologies and that all generators individually take responsibility of their corresponding imbalances. This is regarded as an important signal to support a cost efficient and secure supply of electricity and a supportive development of the transmission grid. In order to support the market integration of RES it is also important to recognize the value of a further development of intra-day trade across borders in order to provide RES generators with sufficient possibilities to manage their imbalances.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Response to signals of scarcity is an important facilitator for RES expansion and must be promoted. Competitive markets deliver the most efficient solutions. For Demand Response to take-off, market participants must be able to develop and market attractive products

and services tailored to meet the requirements of different customers within a competitive framework.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

The current wholesale market model based on short-run marginal cost pricing is appropriate

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels - Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

Sustainability criteria for solid biomass should be in place before 2020 and gradually extended to non-energy uses of biomass in order to avoid suboptimisation.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient

No (please specify how they should be amended or which elements added)

<p>to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>Please specify how they should be amended or which elements added -open reply-(optional)</p>	
<p>First of all an EU-target should be a joint effort for the Member States. The national renewable targets were settled based on a cost burden approach. These were decided as an increase of 5,75% as a flat rate and additional increases based on each country's GDP. This means that the national targets were not based on the renewable energy resources available in each country. Logically cooperation would most likely be the most cost efficient way to reach the EU-target. Cooperation should consequently be enabled on EU level based on a joint framework and not on bilateral agreements. To create cooperation based on bilateral agreements is inefficient, which will make multilateral cooperation very complicated. At EU level the same type of arrangements as for the ETS system (registers, transfer possibilities etc) should be set up to enable cross border trade.</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>The Swedish-Norwegian common green certificate scheme is a good example of cooperation, which could be used as a model.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies</p>	

to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	
J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)	
J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

<b>IDENTIFICATION</b>	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Association of Austrian Electricity Companies, Kreikenbaum, d.kreikenbaum@oesterreichsenergie.at
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Austria
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

We favour a mandatory target on EU-level, whereas sectoral targets should be determined on the national level. In so far we propose to continue the approach of the current directive 2009/28/EC.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Public rewards for innovative activities promoting renewable energies. The elimination of obstacles in the permitting procedure is of pivotal importance, but facilitation policies should deliver results way before 2020. Proceedings which tend to delay or entirely prevent the fast realization of RES-projects sometimes derive from existing EU legal frameworks and/or their too restrictive national implementation. The sometimes too rigorous national application of the Directive on the Environmental Impact Assessment and the requirements of the Water Framework Directive are examples in this respect. A sound equilibrium between environmental protection and the promotion of RES-E on a larger scale has to be found.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will continue to be necessary post 2020 for those RES-technologies which still cannot compete with the total production costs (including investment costs) of other energy technologies.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

Premiums or investment aid

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Phase out support schemes for those technologies that reach competitiveness to market prices.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity,

heating and cooling, transport). -open reply-(optional)

In the electricity sector a gradual alignment could take place on the basis of existing cooperation mechanisms foreseen in the RES Directive 2009/28/EC and further bottom-up activities initiated by member states (e.g. Sweden-Norway).

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

N/A

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

These relevant issues need to be addressed before 2020. Guidelines on grid connection requirements should be pursued on the basis of the 3rd Energy Package.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment

D.2.1. Please explain why -open reply-(optional)

Redispatch should be possible by transparent market based instruments as far as possible enabling economical optimised solutions with

participation of all market participants, also renewables.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

OE considers it necessary to ensure a level playing field for balancing responsibility which applies to all producers of volatile power generation in order to stimulate all market participants to carry out thorough and proper scheduling and forecasting and thus limit system costs. Participation of renewable energies at the market should always be organised by management of a balance responsible party. All installations (conv. generators and renewables) should be enabled to participate at markets for flexibility and transparent redispatch. Hydropower is a flexible tool for the integration of other renewables into the system. It is crucial to support the economically and technically most efficient technology in order to keep system costs as low as possible. Hydropower and esp. run-of-river power plants are crucial in order to provide CO2-neutral base load and energy.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Storage and DSM activation should both contribute to increased RES integration. Moreover, distortions which hinder the balance of demand and supply must be removed. Such distortions include regulated end-user prices, restrictions on plant operations, price caps, and other regulatory or administrative measures which unnecessarily hinder wholesale market outcomes. In markets where all the above improvements have been made and generation adequacy is still endangered, any rewarding of generation capacity and storage flexibility should be organised without discrimination within a market area. Responsibility of market parties should not be undermined by regulatory interventions.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

N/A

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Lack of biomass for large installations

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)
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Please specify which other pathways -open reply-(optional)

Heat pumps remain the most efficient solution outside of distribution heat networks. Further use of biomass only with optimised resource allocation.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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Increase efficiency of buildings and optimise heating and cooling systems.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Road for goods - Rail
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient
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H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	Yes
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for	No, the EU should first focus on developing its own renewable potential
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renewable energy? -single choice reply-(optional)	
I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	N/A
I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	N/A
I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)	
Priority should be given to enhance RES-production within the EU as well as to improve security of supply (storage technologies) based on indigenous resources.	
I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)	
Similar to the North Sea region and the further integration of offshore wind capacities, Central Europe should also be seen in greater context as within national borders. Hence, the importance of hydropower incl. pumped storage has to be stressed esp. regarding its role in security of supply and balancing.	
<b>J. TECHNOLOGY DEVELOPMENT</b>	
J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	
Enhanced funding for scale-up and demonstration projects. Research and technology development of storage of electrical energy.	
J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)	
Storage technologies for load levelling and energy management.	
J.4. How successful do you consider the existing measures have been and which have	N/A

been the main drawbacks? -single choice reply-  
(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

spencer swartz, Neste Oil, spencer.swartz@nesteoil.com;  
ilkka.j.rasanen@nesteoil.com

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Finland

4. How would you prefer your contribution to be published on the Commission website, if at all?  
-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?  
-multiple choices reply-(optional)

Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

There is a clear case for post-2020 targets at an EU level and sectoral level. The critical issue is at what level to significantly increase the targets to relative to current levels. New targets will send clear signals to prospective investors to build next-generation, advanced renewable energy projects that require long lead times from concept to commercial operations. RE technologies in commercial operation today were made in light of the targets set by the RED and built with longterm operating lifespans, not simply for the RED's ten-year timeframe. Returns on those big investments were not envisaged for simply ten years, but many years after the RED's decade-long period. RE targets beyond 2020 are critical to providing industry an important degree of policy clarity and stability for continuing to build and deploy the next generation of RE technologies to help European societies decarbonize today's fossil energy systems. Current RE technologies are a stepping stone to next-generation ones (cellulosic and algae-based biofuels, eg) as the current generation lays down a basic architecture in terms of knowledge creation and energy supply security. physical infrastructure. A long-term view at the EU level on RE technologies and their adoption, including RE use targets, is critical for giving industry and consumers alike a clear goal to achieve in the quest to decarbonize European energy systems and improve the region's energy supply security.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

Enhanced focus on R&D to bring down the costs of renewables technologies - Continue to ensure sustainability and scalability

-multiple choices reply-(optional)

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support is necessary - and acceptable - only in certain cases and should be based on a consistent set of principles. These cases include 1) Public funding for research and development, necessary in order to accumulate the knowledge base for future technologies and to encourage and complement private companies' research efforts by reducing risk. 2) Funding for pilots and larger scale capital investments in case of market failures, i.e. where it is clear that public funding is necessary to kick-start a new, risky market. A good example of this type of funding is the NER 300 programme. In all cases, funding should seek to be technology neutral, maintain a level-playing field for operators and avoid distorting competition. Public funding for rescuing failing, non-competitive companies is not necessary, nor acceptable, as a general rule in order not to distort competition.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Alignment of financial support across the EU based on common principles, would avoid the risk of fragmentation of the single market and selective subsidies to domestic technologies, suppliers or feedstocks. Best way to achieve this is more harmonisation across the single market, and eliminating anti-competitive subsidies

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Schemes that favor domestic economic operators over those from other member states by subsidising or otherwise favouring, for example, domestic producers, technologies or feedstock do distort competition and infringe on internal market principles.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Harmonization of national biofuel legislation across all Member States would be required, as today there are too many variations in place with national systems that make it difficult to operate in multiple markets simultaneously. Also, the fact that there is a lack of commonly agreed specifications for liquid biofuels makes it difficult for operators to introduce, e.g., advanced biofuels to markets as these advanced biofuels are often not commonly known to local authorities.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Lack of awareness - Lack of suitable information
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Other (please specify)
Please specify which other barriers -open reply-(optional)	
<p>Beside the cost issue, the main barrier is the uneven or lack of legal framework delaying or hindering the introduction of advanced biofuels in several member states. There are already advanced biofuels on the market that can multiply the use of renewable energy in transport within current standards (infrastructure, vehicle engines, eg), enabling the development of more energy efficient, low-emission vehicles. Hydrotreated vegetable oil (HVO) has been and is used up to 30 % blended with fossil within current standards and even higher blends are possible without any new standards or investment in logistic systems. The critical element missing in today's European biofuel market is a level playing field between advanced biofuels and conventional biofuels because of the asymmetries in how some Member States have transposed the RED.</p>	
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Road for goods - Rail - Water - Air
G.2.1. Please explain your answer -open reply-(optional)	
<p>In Europe, refined fuel production and traffic fuel consumption is not in balance today. There is excess gasoline supply and a lack of middle distillates (diesel &amp; kerosene). So the most promising sectors for sustainable biofuels are the ones using middle distillates. These sectors are road transport (diesel passenger and goods), inland water ways, rail and aviation. The use of renewable fuels in transport in all these sectors needs to be treated equally from a RED-regulatory perspective and RED-compliant biofuels used in all sectors should be counted in national biofuel mandates. Most of today's barriers to adopting RE technologies, including lack of technology development, lack of standards, and lack of infrastructure, relate to conventional biofuels.</p>	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient

### H.1.1. Please explain -open reply-(optional)

The RED is in the early stages of full implementation in many States, so it's impossible to gauge the effectiveness of the sustainability criteria in any reliable way. The "No-Go" areas in RED Article 17, on where crop cultivation cannot take place without falling out of RED compliance, provide world-class standards aimed at minimizing potential social and environmental damage and unintended consequences. Those provisions are forcing feedstock producers to think very carefully about where they grow future production if they want to compete in the EU biofuels space. Contrast the RED standards to California, where the state's Low Carbon Fuel Standard does not emphasize sustainability requirements, other than a lifecycle GHG reduction target. The RED's impact is felt much wider as the food sector, eg, benefits from sourcing sustainable crops without needing to undertake any of the RED's legally binding requirements. All regulations require after-action review once they can be benchmarked for their efficacy and ability to produce desired societal results; this is necessary to sustain public legitimacy. It may be the case later this decade, after enough is learned, that some RED requirements need strengthening. Conversely, current criteria could be deemed still sufficient. An EU goal of maintaining a leading role in sustainability standards must be done through a holistic approach that takes into account multiple factors--environmental, social and economic.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with third countries should be further promoted. Such cooperation is particularly needed in light of expectations, based on responses from Member States in their National Action Plans, that the need for biofuel and biofuel-feedstock imports is expected to almost triple from current requirements. Greater EU understanding of how renewable industries function in non-EU countries in all their different aspects -- economically, socially, and environmentally -- is imperative to gauging acceptance of imported RE technologies, including sustainably produce biofuels. RE technologies often function through globally operated supply chains. Thus, it is important that the EU has a clearer idea of how industries work from the perspective of these third countries from which the technologies are exported. There is a danger of having an excessive European-only point-of-view on RE technologies in the context that RE technologies from non-EU countries are going to be increasingly required in Europe for improving energy security and tackling climate change. It is vital for the EU to boost cooperation with third party countries and parties beyond current levels, including countries like Indonesia, Malaysia and Brazil. Points of view and research on issues such as palm oil and sugar cane, from entities in these countries can broaden the EU's understanding which can, ultimately, improve public policy.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

EREF, European Renewable Energies Federation, [info@eref-europe.org](mailto:info@eref-europe.org)

2. Are you responding to this questionnaire on behalf of /as:

NGO

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
<p>If Europe wants to maintain its renewable energy leadership and live up to its 2050 decarbonisation objective, a stable policy framework with a binding EU minimum 45% target for 2030 is a crucial prerequisite. . Due to long investment cycles, it is important there is a binding overall renewables target established NOW for the time beyond 2020. 2018, as foreseen by the Directive 2009/28/EC is too late. Binding targets have proven successful in the past, and a 45% EU target now for 2030 underpinned by binding national targets for the Member States would send the right picture to the industry and would provide reliable investment conditions in the sector. It is true that, in particular regarding the Heating and Cooling and Transport sector, in the future a more balanced growth is needed. This makes it necessary that - within the framework of the overall binding EU minimum target of 45% renewable energy in 2030 - the Member States – within their NREAPs – set national targets for each sector on an “at least increase” basis. Those targets would provide the crucial investment security in particular in the Heating and Cooling sector. They would however also allow the Member States to continue their existing policies and priorities and- most importantly - they would not lead to termination of the existing support schemes that are in existence in some Member States and that have proven quite successful. Not undermining existing support schemes should be first prerogative.</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
<p>The binding EU minimum target of 45% is only one – though central – fact, also, a comprehensive and stable policy and reliable regulatory framework are needed. In particular, as the REPAP project showed, non-cost barriers need to be addressed: permitting procedures, grid access, land allocation and administrative issues are still the main bottlenecks for the development of renewable energies. Articles 13 and 16 of Directive 2009/28/EC are not yet properly implemented in all of the Member States, so that more work is clearly needed in this area. The phase-out of subsidies for other unsustainable energy, e.g. conventional fuels and in particular to nuclear energy, would be another important factor: Lack of internalisation of costs (e.g. environmental, social) makes those sources artificially cheap - meaning that if those costs had to be internalized, an important step would have been made for renewables to become fully competitive. Renewable energy is often generated on a decentralized level, which constitutes a great asset: the potential for local</p>	

generation and distribution, using existing infrastructures and existing storage could be one part of the response to the need for grid extension and would take off some of the pressure from on this topic. Thus a policy is needed that allows distribution network operators to work better and closer together with renewable plant operators, that which encourages Demand Side Management energy services and smarter grids.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Some renewable technologies are already close to reaching the LCOE (levelized costs of electricity) status despite the present imperfect markets. Others, less mature technologies are still on their way but with equally clear digression curves and all face the obstacle of high subsidies to fossil fuels and nuclear power. Many technologies need more time to become cost competitive, and will need further financial support and in particular investment security. Also, there are big differences between the Member States – as the respective markets are different and so are the conditions for the technologies. And before the background of decentralised deployment of renewable despite ever increasing efficiencies it may be longer more “costly” to tap the renewable resources in less optimal natural and local situations. Intelligent mechanisms such as in the German Feed-In Law guarantee fairness between regions and technologies and trigger access to renewables across regions thus reducing the negative side of too concentrated deployment of renewable technologies and increased grid enforcement costs Experience with the Directive 2009/28/EC has shown that competition between national systems for financial support systems works: knowledge exchange between Member States -despite current problems under the financial crisis- will in the long run encourage progressive and adapted support systems which on the same time take into account national or regional specifics.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

The solution is not so much making support schemes for renewable more market oriented, but making the market fair for renewables by creating a level playing field. As there are still imperfect conditions with subsidies paid to fossil fuels and nuclear energy which keep the prices artificially low, as there are still structures that prevent proper access (from administrative hurdles, over grid access issues to questions of unavailable financing as banks still lack the experience with renewable (in particular Heating and Cooling) projects), and indeed, as some renewable technologies are still in early stages of development and need financial support, support schemes are merely an answer to an imperfect market. They do not create a separate world for renewables, but they make their participation in the market possible. Instruments for adapting Feed In Tariffs over time – such as a degression as in the German EEG – can properly align for example a technology’s learning curve and the financial support paid and that way respond to improvement in the technologies and in the markets. .

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

As mentioned above, there is no “one size fits all” solution to support schemes or to what technologies need to be phased out when. Technologies are different, markets are different, conditions are different, and Member States are different... An EU wide support scheme would in this context not make any sense, neither would blind convergence. Decisions on which technology to support and how long have to be left to the Member States, and while voluntary cooperation may (or may not) prove a good idea for some, it may as well be catastrophic for others. What does make sense is the application of common rules where the conditions are similar, e.g. the much referred to point of grid access. Having guaranteed access to the grid would allow renewables to actively participate in the market and to compete on it – directly or indirectly. Together with a well-tailored, technology-specific support, which can be gradually adapted to the respective learning curve of the technology in question, renewables would slowly but steadily begin become more market oriented, become able to compete in markets (if the markets are well designed and well functioning).

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	No, support levels should be entirely up to Member States
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
<p>It is correct that e.g. the electricity sector and the heating and cooling sector are quite different and have different needs due to those different specificities. However, as argued above, developments of the technologies in all sectors has not been linear in the Member States and it cannot be as the conditions widely differ, and political choices as well as consumer acceptance and the like also play a role. Thus what has been said above – that there is no “one size fits all” solution and that Member States need to be the ones to determine the design and the levels of their financial support schemes – applies to all three sectors. There should be one overall binding EU minimum target of 45% renewable energy in 2030, underpinned by binding national targets for each Member States, with sectoral targets to be set by the Member States.</p>	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
<p>Permitting for renewable energy plants can be challenging due to the complexity of procedures and long planning periods. Legislation on licensing procedures is long and complicated and there is often no one at the agency to help with explanations and practical assistance. Any measure helping the simplification of permit granting process is welcomed and needed. It is common in many European countries that for a single project, the project developer has to obtain several different permits and authorizations. Other obstacles are a lack of consistency of EU, national and regional rules regarding nature conservation or building legislation, lack of tax incentives for local communities (e.g. in Germany rural communities often do not profit from business tax generation, but the cities where the operating company is located). For one project, a number of different public enquiries have to be carried out, using the same Environmental Impact Assessment. The Committees exceed the scope of their evaluation role, evaluate to large sets of descriptors but do not consider sufficiently economical impacts – also, the procedures are intransparent and promoters are not allowed to attend the meetings. As every step takes several months/years, and cannot be done in parallel, it leads to an unnecessary repetition of efforts and to delays. A further difficulty is that while all those permits relate to the same project, their requestor is different.</p>	
C.2. Which policy response to the problems	Other (please specify)

identified above do you consider appropriate?

-single choice reply-(optional)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

However, Member States are different in their internal set up and organisation. Harmonisation is thus not an option – in particular as the EU would intrude into Member States exclusive competence and sovereignty here. Standardisation may be a point, but it is questionable how this should work in practice. Rather it is suggested to better enforce and reiterate the obligations the Member States have – that is to facilitate fair and transparent administrative procedures for renewables. In that, a similar approach as in the recent Infrastructure Package proposed by the Commission could be taken. For example, mandating a single permitting procedure would reduce the time under which all permits could be obtained, as the multiplication of procedures is inefficient and unnecessary as the respective enquiries require the same information. A national contact and coordination body could be useful if it entails that all administrations would be in line and regional bodies would follow recommendations and best practice guidance from that body. In our experience in project development, we often noted that political commitment and interpretation of the rules could be very different between national and local level. A fixed time limit would be helpful provided that when the time limit is passed without any official decision, the permits is be granted and not rejected.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

- Grid connection rules: Above all, priority access to the grid for renewable energy sources should be maintained until renewables become the mainstream source of electricity. Therefore the priority access needs to be maintained after 2020. Grid connection rules also need to be made more transparent for renewables, especially regarding the procedure to determine the grid capacity for variable renewables and the system flexibility. Additionally, there is an urgent need for additional countries/regions interconnection capacity. Those additional capacities should be increased and made mandatory (as it is now). - Cost-sharing rules. Grid update costs should be shared by the power plant developer and the distribution system operator (DSO). Currently in some countries, power plants developers have to pay the grid upgrades and then transfer it for free to the DSO. It is then the DSO that gets the yearly remuneration for those upgrades. This system needs to be changed and it should be clearly defined who has to pay for what and what the associated remuneration is. The grid regulation procedures need to allow for multi-year planning in order to make well-informed and sustainable grid layout decisions by the operators. - Balancing rules. Centralized dispatches are key to ensure a smooth renewable energy production and to maximize the benefit of integration of renewable into the grid.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment - Other (please specify)

Please specify which other rules -open reply-(optional)

In addition to priority or guaranteed dispatch, the German so-called “hardship clause ” is recommended: the grid operator has to pay damages to the renewable energy plant owner, for the time and in case of the curtailment. As the grid operator is responsible for the balancing in the grid, as well as for – in Germany – sufficiently strong and stable grid infrastructure, he is also held liable. Reducing curtailment of variable renewable is the best way to maximize the contributions of renewables, especially renewables that are not easily dispatchable or have no opportunistic fuel costs, like wind and solar. Another key priority is to increase the grid interconnection capacity between countries and regions in order to make the EU system more flexible.

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind

Increase availability of demand response (smart grids ...) -

and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Accelerate infrastructure development and interconnection -  
Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

Some Back-up capacity is certainly needed, however, it needs to be ascertained that – as a rule - and to guarantee that the objectives of the energy system transformation are implemented – this does not come from fossil energy power plants. In fact, coal or nuclear cannot be back-up capacity – those plants are not technically capable of being run only as a flexible back-up as they cannot be switched on and off easily and their costs are incredibly high and running them at low volumes economically simply makes no sense. The renewables industry therefore should not be obliged to make any kind of capacity payments, which would only be one more obstacle to overcome on the way to system transformation. For Europe’s new energy supply system, increasing the availability of demand response such as smart grids is very relevant for decentralized renewables plants and also for small scale, home (rooftop) installations. For instance, net metering/self-consumption would be a good measure for those countries where renewables are close to competitive. For larger renewables projects, such as offshore wind, accelerating infrastructure development and building new interconnections is important to ensure flexibility of the EU system. For both large and small projects, increased use of (inter-state) trade and trading closer to real time have huge potential – for that forecasting capabilities need to be used efficiently, and the market platforms need to be more flexible.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

The question by itself is intrinsically flawed: renewables are not a separate market; rather they are new players in a distorted market, trying to live up against the existing structures. Support schemes are not made for protecting a separate and cozy renewable energy space, but to facilitate fair and level market participation for renewables, if there is a market. Thus they are already market oriented, and they will become even more so, the more the existing distortions are minimized and ultimately eliminated. In particular the answer that producers of renewable energy should be treated separately is thus absurd. Similarly, and clear and never questioned for fossils and nuclear, it is the role of the grid owner operator to take care of the grid and to ask for increased grid tariffs in accordance to cover those costs, which will be – if reasonable – approved by the regulator. Such a system will make the grid a clear stand-alone investment case and will facilitate involvement of funds and finance corporations. (For example, the German Grid Agency currently is designing business models under strict competence and authority rule for the grid owner to bear the costs of enforcement of the grid...)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

For energy system transformation as envisaged, it is insufficient to “just” increase renewables. Rather, the market needs to adapt to the different specifics – and to the different potentials. Renewables are often generated decentrally, which allows for local generation and local consumption and if those are better aligned, for a reduced need for storage. Demand Response can thus play a crucial rule – and in

particular DSOs can play a central role in such a system. Retail electricity market rules should foster self-consumption in various market segments (residential, commercial, industrial): availability of real-time production and consumption data (metering), clear and informative bills and time-of-use tariffs will therefore play a key role. In addition, aggregation strategies through, for instance, virtual power plants combining different renewable energy sources on a large scale will also have to develop in order to facilitate market access for distributed generation.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)

Please specify which other barriers -open reply-(optional)

It is not only the lack of financial support, but it is the overall package, that has not proven sufficient to trigger growth in the Heating and Cooling sector in many countries. There are interesting ideas being developed, and some countries do in fact already have success stories to tell. However, often it is the design of the support that does not meet the very different, often more small-scale needs of renewable heating and cooling. As this though again depends on national market conditions and consumer behaviour, Member States need to be encouraged to become more proactive and to learn from each other and develop systems that work – nationally – for their respective heating and cooling sector and for their markets and consumers. (E.g. international experiences with a use obligation show that while this was taken up with great success in Israel, it failed quite miserably in Spain. Similarly, while in Tunisia people might take up systems with no up front costs, in the UK the supermarket chain Sainsbury's failed even with a scheme in which the installations were offered for free. This shows how different the needs are and reiterates that the only way to deal with this is an improved and enforced support on national level, specifically targeted for the sensitive heating and cooling sector of that country.)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

Electrification would only contribute where abundant, and could even play a great role in avoiding curtailment, or to reduce the need of storage. It does not offer a solution to entirely replace all heating and cooling.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

They are both necessary allies with both of them needing to be fostered, together as well as independently. Also, the role and obligations of architects will become more and more important – renewables need to be integrated in modern architecture to reflect our modern lifestyle.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information - Limits of availability of sustainably produced biofuels - Other (please specify)

Please specify which other barriers -open reply-(optional)

Lack of awareness may in this regard also mean lack of willingness – car manufacturers seem to refuse to deal with technical necessities of pure biofuels (sustainable of course) and to develop e-mobility instead of luxury cars. This may however also be due to the wrong

support: there should be a clear incentive via an exemption from mineral oil tax, rather than a blending quota scheme. Blending – with the lower figure being RE – always means sticking to fossil fuel. Blending like E85 – meaning that some fossil has to be added for technical reasons but could be replaced later – would be better. But the future – as we are looking BEYOND 2020 – should be RE-electric cars.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail

G.2.1. Please explain your answer -open reply-(optional)

Road and rail are certainly most promising. On the roads, the share of electric cars should be increased, as well as on larger rail tracks. While pure biofuels would in future cover the rest, in particular road for goods and smaller rail tracks. Methane gas CH<sub>4</sub> as biogas should be mentioned as well, as it could be a good solution for aircrafts

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

It is not for the EU to impose any prioritization on projects in Member States. Member States shall retain their sovereignty over what projects they like to support or not. What has been said on support schemes holds true here as well – there is no “one size fits all” and what can work in one country, will not necessarily work in the other. Therefore, it is only the Member States who can competently decide on such issues. If one or more Member States decide to cooperate, and can agree on a project, then the Directive 2009/28/EC with its flexibility mechanisms already provides a possibility for that.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Other measures (please specify)

Please specify which other measures -open reply-(optional)

If one of the Member States should decide to cooperate with a third country, then they should be allowed to do so. The Directive

2009/28/EC provides already provides a basis for this and it remains to be seen if and how this works. However, it is certainly not for the EU to start entering into agreements and imposing them on their Member States – at times when national markets are as different and differently distorted as they are., even the most well-intended effort could have catastrophic impacts. For the same reasons as no harmonization is possible – and even less desirable – no EU agreements should be concluded. There is no reason – as long as the EU and Member States are serious about the transition towards a sustainable energy supply – to encourage third country cooperation more than the Renewables Directive does. This would open another loophole for delaying the shift towards Renewables.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Such a policy can only be an add-on and it has to focus on RES development for national and regional deployment in the Third countries. Cost of grid infrastructure from there to the EU makes it highly unattractive against national increase of distributed RES Such a partnership could make sense for developing RE in that area for use in that area, not for export to the EU. The priorities, as already reiterated above, should clearly be the development of Europe's internal potential – thus interconnector capacities alongside with a renewable energy target of minimum 45% in 2030.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

This is in line with established cooperation between EU neighbours such as happening in road and rail links it is part of the national policies and is good to have, but does not need any specific attention since it is based on established cooperation mechanisms. Whether it works out, will depend on the Member States, thus has to be also within their decision competence.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Other (please specify)

Please specify which other key challenges

-open reply-(optional)

There has so far been only very little positive outcome from the SET Plan for renewables. The Commission first will have to give a comprehensive and detailed report on the outcome and direct positive signal reflected in concrete quantity from SET support, before any assessment can be made. However, what can definitely already be added is that there is a need for facilitating system transformation towards a renewables based energy system, and not so much system so much for integration of renewables into an outdated system designed for fossil and nuclear, and the like, but rather for a system transformation. When moving to a future with renewable energy as the main source of supply, it can no longer be called a question of integration – this will be a transformation. Around this paradigm shift, research and innovation could be a great contribution.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The four main instruments would be the Regional structural funds, EIB, Intelligent Energy for Europe and the HORIZON 2020 framework.

As, an example, the R&D Roadmap for PV which is elaborated within the SET Plan defines the necessary technology improvements needed to ensure that PV is a mainstream energy source by 2020. The Solar Europe Industry Initiative (SEII) identifies the needs in terms of R&D that can contribute to achieving a high level penetration rate for PV. However, the financial commitment from the EU budget through FP7 calls is far below the needs identified in the SEII Implementation Plan 2010-2012 (1235 million €). This should for instance be compared to the 2012 FP7 calls, in which €16 million have been dedicated to PV technologies (in addition to an ERANET project of 2 million €). A dedicated budget line (within or outside Horizon 2020) for each of the SET-Plan renewable technologies would in addition give much more visibility to the sector. Furthermore, the EIB can offer funding – in particular programmes for the Heating and Cooling sector could be kick started this way.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

This is an awkward question – prioritizing is always difficult, when there are so many differences in the market conditions in the Member States. Also, potentials in production sites, in project sizes, etc. vary widely – which is exactly at the very heart of the future energy supply. What is clear is that the future energy system will have to be based on a broad mix of various renewable energy technologies and sources, not only large-scale, but definitely also on smaller scale and on distributed levels. This system change should be part of further development of the SET-Plan. The idea of prioritizing itself seems to be more an idea of the past.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

One particular drawback – if to be called so – would be that while indeed some progress was made in the renewables sector, there continues to be support for fossil and nuclear energy. As those are the main obstacles that renewables face anyways – that are the existing structures and subsidies – this is counterproductive – and rather than being a drawback simply undermines the system.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

It is problematic to simply link results to a deadline, so the general answer is no. Technology development will by itself reach a balancing point – this cannot be pressed into rigid frames. . However, some success criteria, good indicators and realistic time planning from the beginning could avoid worst case examples such as the continued financing for ITER, where over 50 and more years money has been and will be wasted, now waiting for another 50 years. Burning money does not – but for the bit of heat – produce energy and cannot be the interest.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Eurometaux, non-ferrous metals ( Robert Jan jeekel jeekel@eurometaux.be)

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Belgium

4. How would you prefer your contribution to be

Under the name indicated (I consent to publication of all

<p>published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>Yes, an indicative and non-legally binding target at EU level is appropriate</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>Current scheme is very costly to consumers and governments, some countries cannot go further, or have to scale back. More target setting is distortive, at national and EU level; example sometimes Germany already has more phot/wind load than grid capacity.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>
<p>Please specify which other policy elements? -open reply-(optional)</p>	
<p>In many MS RES costs (including the connected grid levies) are becoming too expensive for industrial consumers, who have a global pricing system and cannot pass on regionally imposed (RES) costs in their product prices. This leads to carbon leakage, missed investments, and an EU dependency of metals, which are required for the new green high tech technologies. Therefore, our industries need full exemption of these costs, until the rest of the world has similar burdens, a level playingfield. For this, a exercise similar to the carbon leakage list should be made. This should stop this double negative ongoing trend, which is bad for the environment, bad for the EU economy.</p>	
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
<p>Please specify which technologies/circumstances/markets -open reply-(optional)</p>	
<p>It should be up to the MS to decide. This support should be cost-effective and not further harm industrial consumers; always guarding their global level playing field.</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Phase out support schemes over time (please specify for which technologies if applicable)</p>
<p>Please specify for which technologies (if applicable) to phase out support schemes over time -open reply-(optional)</p>	
<p>-not only phased out over time, -if by price/cost they are commercially competitive, support should stop; -hence, over-compensating tariffs should be avoided -trade intensive industrial consumers should be exempted</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member</p>	<p>No, support levels should be entirely up to Member States</p>

States' financial support for renewables? -single choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
No	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
There is distortion if RES are too (over) subsidised, then there is "subsidy-leakage". This is taking place particularly when electro-intensive industries are not exempted from the se expensive levies and have no global level playing field. This also happens as it distorts the electricity markets, directly and indirectly.	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	
<b>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</b>	
D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	None of the above
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	None of the above
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D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase flexible back-up capacity (capacity payments ...) - Other (please specify)
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Please specify which other measures -open reply-(optional)

The value that electro-intensive industries to the system should be valued properly. A adequate much higher remuneration for the balancing, and interruptability possibilities of these industries should be in place. For example, the non-ferrous metal smelters where very instrumental to avoid a total black -out in Germany in 2006, caused by RES. They funtion as kind of back-up power plants, and their continous high voltage oftake, day AND night should be compensated for in various ways. This valu only increases when there will be more RES. The EC policy only imposes more unilateral, often ineffective, RES & grid costs on the industries, while they should value it : -1 by the above measures, and -2 by exempting this industries from the levies, so the industries will keep this function and will not close; IF this would be done covering a cumulative electricity cost picture for the industry, which would make the EU investbale again, new investments might come back to the EU again for new production to match the growing metals demand in the EU (for tyhenmoment that situation is far away, beacuse of the very heavy cumulative unilateral electrcity costs in the EU).

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs
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E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

Too much focus/hope is on smart grids. Too much RES will destroy the market, subsidised RES are incompatible with the market. The value that electro-intensive industries to the system should be valued properly. A adequate much higher remuneration for the balancing, and interruptability possibilities of these industries should be in place. For example, the non-ferrous metal smelters where very instrumental to avoid a total black -out in Germany in 2006, caused by RES. They funtion as kind of back-up power plants, and their continous high voltage oftake, day AND night should be compensated for in various ways. This valu only increases when there will be more RES. The EC policy only imposes more unilateral, often ineffective, RES & grid costs on the industries, while they should value it : -1 by the above measures, and -2 by exempting this industries from the levies, so the industries will keep this function and will not close; IF this would be done covering a cumulative electricity cost picture for the industry, which would make the EU investbale again, new investments might come back to the EU again for new production to match the growing metals demand in the EU (for tyhenmoment that situation is far away, beacuse of the very heavy cumulative unilateral electrcity costs in the EU).

E.3. In how far do you think today's market design needs to be adapted to provide an	The current wholesale market model based on short-run marginal cost pricing is appropriate
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appropriate framework for renewables -single  
choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

No barriers: CHP is already supported much too much: directly (expensive levies) and indirectly, via very many policies (energy, climate, state aid, R & D, etc, etc, etc). This is leading to direct and indirect overcompensation and should not be increased. E.g there should never be CHP priority access to the grid.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

CHP is already supported much too much: directly (expensive levies) and indirectly, via very many policies (energy, climate, state aid, R & D, etc, etc, etc). This is leading to direct and indirect overcompensation and should not be increased. E.g there should never be CHP priority access to the grid.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

CHP is already supported much too much: directly (expensive levies) and indirectly, via very many policies (energy, climate, state aid, R & D, etc, etc, etc). This is leading to direct and indirect overcompensation and should not be increased. E.g there should never be CHP priority access to the grid.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>Yes</p>
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>No (explain why)</p>
<p>Please explain why -open reply-(optional)</p>	
<p>It should be up to the MS and done in a cost effective way, while guarding/reinstalling a global level playing field between the EU industry and its global competitors</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>It should be up to the MS and done in a cost effective way, while guarding/reinstalling a global level playing field between the EU industry and its global competitors</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>No benefits, it will lead to much more costs, as this is not cost-effective. These subsidies of grid and RES should be used in a much more cost-effective way. So this cooperation should not be fostered, paid by tax payers money and not applied elsewhere.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	<p>Technology performance and cost-competitiveness - System integration</p>
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their</p>	

remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

UPEI Union Pétrolière Européenne Indépendante

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Targets are only useful in this case when mandatory. They should be on EU and country-level but can be different in sectoral level.They

can be more specific in some cases.

B.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies
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## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

This is difficult to predict, but it seems that some markets will develop quicker than others which means there could be a reason to support less developing markets of technologies.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Open up national support schemes to cross-border projects
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B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

Target should be to phase out financial support whatsoever

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
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B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables	Lack of commonly agreed technical specifications - Other (please specify)
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<p>following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
<p>Lack of mutual acceptance of certificates, rules registration between Member States, which prevent trade</p>	
<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Push for more standardisation and harmonisation on EU level or mutual recognition</p>
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	
<p>D.2.1. Please explain why -open reply-(optional)</p>	
<p>D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)</p>	
<h2>E. MARKET INTEGRATION</h2>	
<p>E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)</p>	<p>Producers of renewable energy should bear greater responsibility for system costs</p>
<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	
<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	
<h2>F. RENEWABLES IN HEATING AND COOLING</h2>	
<p>F.1. What do you consider to be the main</p>	

barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Pace of technology development - Lack of standards - Limits of availability of sustainably produced biofuels - Other (please specify)
Please specify which other barriers -open reply-(optional)	
National rules that prevent trade between Member States	
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Road for goods
G.2.1. Please explain your answer -open reply-(optional)	
With the current blending of sustainable biofuels in these sectors, that look most promising with a higher percentage of blending. Also rail, water and air will ask for a much security level in terms of product quality than road.	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient
H.1.1. Please explain -open reply-(optional)	
<b>I. REGIONAL AND INTERNATIONAL DIMENSIONS</b>	
I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	
I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)	
e.g. North African countries for solar; Russia for biomass; African countries for sustainable biomass	

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)

No (explain why)

Please explain why -open reply-(optional)

Not on European level, the market will find the most efficient allocation of resources, eg. for solar

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

Technology performance and cost-competitiveness

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Stimulating universities, students and research centers to focus on renewable energy sources

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)

Storage facilities are key to renewable energy, especially electricity

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

Successful but some drawbacks (please specify which)

(optional)

Please specify which drawbacks -open reply-(optional)

We still experience a lot of administrative and legislative burdens with cross border trade within the EU, especially in the field of biofuels. These problems should be met to increase the speed of introduction of biomass/biofuels

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Paride Antolini, member of Italian Geologist National Consilium (CNG). Mail to: geoparide@libero.it

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

Italy

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a combination of EU and sectoral level targets is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Renewable energy is crucial to achieve the EU's objective of reducing our GHG emissions by 80% in 2050. The 20% renewable energy target set in the RES Directive (2009/28/EC) is paving the way for new investments in green technologies, including innovative geothermal systems. Binding targets for 2030 are of utmost importance for investors to ensure a fair level-playing field with other, highly subsidised, energy sources, e.g. nuclear, fossil fuels. All sectors (electricity, heating and cooling and transport) are key to the above-mentioned decarbonisation's goal. Nevertheless, the potential contribution of renewable heating and cooling to achieving the 2020 targets has been underestimated, as confirmed by the NREAPs as well as by the poor incentives put in place at national and local level. The combination of mandatory EU and sectoral targets in a post-2020 framework should follow the systematic approach of the RES Directive and should not be limited to a 30% share, as envisaged in the Commission's Energy Roadmap 2050. Such a 30% would actually correspond to business as usual and does not include renewable heating and cooling, largely neglected in the EU Executive's

exercise. Indeed, the contribution of RES heat in 2030 will substantially increase the overall RES share in final energy demand. EREC, in its 2030 45% document, assumes a 284Mtoe production of heating and cooling in 2030, compared with 104.9 Mtoe in the high RES scenario of the Energy Roadmap.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

Building obligation  Energy efficiency targets  Increasing the renovation rate in the EU

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

For geothermal, financial support will still be key in order to reduce costs of innovative technologies such as EGS and low temperature power plants. Moreover, a support for Geothermal heating will be needed until when fossil fuels are also supported. Support to Geothermal is currently very low in nearly all EU Member States.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how)</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Switching from feed-in tariff to feed-in premiums as the specific technology progress down the learning curve and increase its share on the market (as it is happening for PV in some member states)

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with benchmark values for support level per technology per Member State</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>No</p>
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

There is a great difference between electricity and heating and cooling. Electricity may have a wider European market. In this regard, geothermal electricity should be supported by all EU member states whereas today only 11 EU countries have support schemes (e.g. feed-in tariffs or green certificates) in place for this technology. Similarly an EU geothermal risk insurance scheme should be develop in order to minimise the geological risk. On the other hand the market for heating depends on local conditions. Therefore, national or local incentives should drive the development of renewable heating and cooling.

<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	<p>Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes</p>
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<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>
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Please specify which support schemes you consider most distorting -open reply-(optional)

This is the case when only certain technologies (e.g. Nuclear, Gas, PV, Wind, etc.) are highly supported in nearly all member states and, for instance, geothermal support schemes are in place in just a few countries, with a lower level of support. The slow development of some RES in certain areas with good resources is mainly due to the complete absence of support schemes. For instance, feed-in tariffs for geothermal are in place in only eleven EU member states. Feed-in tariff systems in all member states would contribute to a more balanced development of renewable energy in Europe and to the further development of new geothermal technologies, primarily EGS, as it is happening in Germany where such a support mechanism is in place and where 41 new geothermal power plants are currently being developed (Source: EGEC Deep Market Report 2011).

## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification - Other (please specify)</p>
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

- Lack of regulatory framework for shallow and deep geothermal, drilling and ownership of resources (see GTRH ([www.gtrh.eu](http://www.gtrh.eu)) and Geoelec ([www.geoelec.eu](http://www.geoelec.eu)) projects
- lack of information on support schemes: Geothermal is not supported everywhere so that stakeholders continually investigate for alternative sources of funding; transparency should be applied over support schemes for both conventional and non-conventional sources of energy in order to contribute to create the already mentioned fair level-laying field. For the heating sector the problem is that often only stop & go measures are put in place. The diversity of the support schemes in place represents an additional problem;
- Lack of credible and certified training and qualification: Few training courses and certifications are available for geothermal (see Geotrainet project for further information) in order to have a quality and sustainable market

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Push for more standardisation and harmonisation on EU level or mutual recognition</p>
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	<p>None of the above</p>
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

The integration of external costs such as those for gas and electricity infrastructures and new electricity generation, into the overall energy cost would remove many of the obstacles and contribute to create a level-playing field.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
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D.2.1. Please explain why -open reply-(optional)

Priority or guaranteed access and priority dispatch are sufficient renewables-specific grid related rules if a better management and balance of flexible and variable renewable energy sources will be undertaken.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Other (please specify)
--	------------------------

Please specify which other measures -open reply-(optional)

None of the above as the least costly option is to increase the share of flexible renewable sources. Providing renewable base load, flexible renewable energy sources do not have external costs associated with traditional fossil fuels such as storage, grid and supply infrastructures or waste management (CO2, nuclear). In this regard, geothermal is a renewable electricity source providing flexible and renewable baseload that can operate around the clock, anywhere in Europe, with the best load factor of all energy technologies (more than 80%). Geothermal can therefore ensure system stability while reducing grid management costs.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)
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Please specify which other barriers -open reply-(optional)

● Lack of fair competition with conventional sources of energy. The integration of external costs into the overall price of energy is of utmost importance in this regard.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Other (please specify)
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Please specify which other pathways -open reply-(optional)

Integrated energy production (e.g. cogeneration, biomass+geothermal, PV+geothermal)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Meeting Europe's 20% energy saving target is an extraordinary opportunity to re-launch sustainable growth in a time of economic crisis. In the long-term period, more and more energy efficiency improvements are needed. To this end, geothermal and other renewable heating and cooling technologies will be contributing to dramatic reductions in primary energy consumption. Renewable heating technologies provide market ready, efficient and completely carbon-free energy. Electrification of the heating sector should not be encouraged when other truly renewable heat technologies are available and deliver better and more efficient solutions, notably deep and shallow geothermal. Thermal needs should be primarily supplied by thermal sources and decentralised energy demand should also primarily supplied by decentralized energy supply. As a result lower costs and better efficiency will be achieved. Therefore, reducing the electrification of heating and cooling will relieve the stress on the power system and shave peak loads.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

● The cooperation mechanism should include a mechanism to develop a European geothermal risk insurance scheme. ● More cooperation in increasing awareness about geothermal and its potential as well as for R&D should be put in place

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in

No (explain why)

some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)

Please explain why -open reply-(optional)

Investments in electricity network in some member states in order to facilitate imports of electricity from third countries should not be encouraged and eventually the costs should be taken into account. What should be prioritised is the development of local flexible renewable energy sources, notably geothermal which is a baseload renewable energy source that can operate around the clock, anywhere in Europe, therefore ensuring system stability.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

It can only be an add-on and it has to focus on RES development for national and regional deployment in third countries. Such a partnership could make sense for developing renewables in that area for use in that area, not for export to the EU. When the EU undertakes joint projects and cooperation with a third country regarding the generation of electricity or heat from renewable sources, the EU should facilitate the concerned country or countries' domestic use of part of the production from the installations covered by the joint project. Furthermore, the third countries involved in joint projects should be encouraged by the EU to develop a renewable energy policy including ambitious targets.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

No, the EU should focus its efforts in developing RES technologies that do not need large infrastructure costs

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

Other (please specify)

Please specify which other key challenges -open reply-(optional)

- By developing System management combining these technologies with flexible renewable energy technologies, such as geothermal ●
- By promoting Smart electricity and thermal grids

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to

2050? -open reply-(optional)

The challenge is to have a renewable energy mix in the future combining both variable and flexible RES. The objective should be to establish instruments and to adopt measures going into this direction.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

● Geothermal electricity, notably for the development of EGS (Geothermal Enhanced Systems). EGS (Enhanced Geothermal Systems), uses the high temperature of rocks with artificial water injection and, generally, with enhancement of permeability of the hot reservoir. An Enhanced Geothermal System is an underground reservoir that has been created or improved artificially. ● Geothermal heating and cooling, in order to promote smart cities with also smart thermal grids

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Successful results: ● EERA - European Energy Research Alliance - Joint Programme on geothermal energy is rather successful as it is mobilizing large resources for R&D in geothermal. it now starts also to cooperate with the industry, which is a great signal ● The European Technology Platform on renewable heating and cooling (RHC TP) which brings together stakeholders from the biomass, geothermal and solar thermal sector - including the related industries - to define a common strategy for the use of renewable energy technologies for heating and cooling and achieving a 100% share in 2050. The work of the platform is successful, but needs implementation as well Industry Initiatives.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Yes, to a certain extent it could stimulate innovation.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Martin Schmalzried - Confederation of family organisations in the EU -  
mschmalzried@coface-eu.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable

Yes, a combination of EU and sectoral level targets is appropriate

energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?  
-multiple choices reply-(optional)

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

Yes

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Accelerate convergence of national support schemes

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes - Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

The opening of national schemes should be progressive to avoid putting in competition less developed national renewable energy enterprises with other Member states's companies. We believe that the systems put in place need to be as flexible as possible be it through convergence of national schemes or compensation mechanisms, to account for all situations. In the longer term, the Commission could carry out a study on the evolution of the renewable energy market and support schemes across Member states and take a decision on the best system on the basis of the study.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

No, support schemes do not have a significant distorting impact on competition

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Accelerate infrastructure development and interconnection

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Building regulations etc. - Other (please specify)

Please specify which other barriers -open reply-(optional)

The energy efficiency directive should propose binding measures for governments and industry alike.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Other (please specify)

Please specify which other barriers -open reply-(optional)

Lack of regulation and public sector intervention. As long as switching to renewables is an economic decision (as opposed to a political one), the uptake will be slow and dependent on short term profitability rather than on long term sustainability.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for passengers - Road for goods - Rail - Water
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G.2.1. Please explain your answer -open reply-(optional)

The priority, however, should remain to produce and consumer locally as much as possible. In a medium term perspective (20-30 years), air transport will never be sustainable. As regards other transportation means, the priority should be to move away from fossil fuel dependency. Rail transport is probably the most promising means of transport from a sustainability perspective.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)

Peak oil and its economic consequences (high oil prices) will have an impact way beyond 2020. Criteria beyond 2020 should be developed in order to prepare or better pre-empt the decreasing availability of fossil fuels. More generally, any resource which is finite needs to be subject to sustainability criteria. The sustainability of biomass needs to be thoroughly reviewed as well since many issues remain unsolved, notably land use and environmental impact.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	N/A
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
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Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation needs to cover as many countries as possible in order to exploit each country's full potential for renewable energy production. For instance, solar energy in the southern countries and wind/wave energy in the Nordic countries.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	Yes (explain in which way and to which degree)
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Please explain in which way and to which degree -open reply-(optional)

It is obvious that countries producing more solar energy due to better sunlight exposure need more investment. The development of solar thermal power plants in Spain (andasol, extresol...) is an example. The EU should promote such investment through structural funds.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	N/A
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on

electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

The temptation to create energy "monopolies" such as with projects like Desertec could cause major problems to sustainable energy production. The "new" model of renewable energy production should focus on smaller scale, community based, local renewable energy production. Several reasons justify such developments. Firstly, should there be a "failure" of a centralised energy production facility, chances are many households/companies will suffer from temporary or longer-term black-outs. A local failure would not be important enough to cause a major impact on the energy supply to create such problems which is why local, smaller scale energy production is safer. Secondly, monopolies can distort prices and take advantage of their dominant position. Examples such as Electrabel in Belgium which was fined by the government for charging consumers for energy they did not consume is a case in point. Thirdly, small scale production reduces energy transport costs and energy loss.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

A lot of energy is "wasted" in passenger travel. Tele-work and e-services (such as e-health or e-administration), via e-inclusion, broadband access for all, for instance needs to be implemented on a much larger scale as it would permit, not only to cut down on fossil fuel dependence, on CO<sup>2</sup> emissions but also to address excessive traffic problems in big cities.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

As always, watered down targets and measures with little or no mandatory measures targeting the private sector will produce mitigated results. The EU should think less in terms of short term profitability and more in terms of long term sustainability. If fossil fuel prices skyrocket such as between 2006 and 2008, the cost will be much greater for the industry than measures imposing a transition towards renewable energy production and consumption.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>Mark Duchamp, World Council for Nature, world.council.for.nature@gmail.com</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>NGO</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>Other (please specify)</p>
<p>Which other country? -open reply-(optional)</p>	<p>Global</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>No, targets for renewable energy sources are unnecessary</p>
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The Principle of Proportionality is binding in both the development of EU legislation and State Aid for environmental protection. To comply it has to be demonstrated (a) what greenhouse gas tonnages are to be reduced; (b) the cost basis for implementation and the alternative implementation strategies considered and (c) the environmental objectives involved, namely the environmental degradation which is to be avoided. Neither the NREAPs nor the EU's documentation for Directive 2009/28/EC demonstrate (a) or (b). Directive 2001/77/EC required by the end of 2005 a report which should: "Consider the progress made in reflecting the external costs of electricity produced from non-renewable energy sources and the impact of public support granted to electricity production". This cannot be found. In DG Clima's analysis in March 2010 of a possible initiative to step up beyond 20% greenhouse gas savings: "Explain how the options respect the proportionality principle? Climate change is a transboundary environmental problem. Achieving GHG reductions targets in the EU requires a balanced distribution of efforts between countries and sectors in order to ensure that the environmental objectives are met, but also the common market is not unduly hampered". Neither is there an answer to (C). Furthermore, the Commission has failed to

comply with the decision of the EU Ombudsman in Complaint 2587/2009/JF. The renewable programme is a breach of the most fundamental principle of EU law.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Other (please specify)

Please specify which other policy elements? -open reply-(optional)

“The long-term perspective of investors” and the EU’s ambition to move towards a reduction of 80-95% of GHG emissions in a 2050 perspective is the focus of this consultation and resulting measures. The Lisbon Treaty is clear in that the “Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance. Each institution shall act within the limits of the powers conferred on it in the Treaties. The institutions of the Union shall apply the principle of proportionality”. Massive costs and environmental impacts are occurring and the Commission and the Member States have failed to demonstrate, how the renewable energy programme and the focus of this consultation, are in compliance with the terms of the Lisbon Treaty above. The citizen’s interest does not lie with a 95% reduction in GHG emissions and establishing a long term perspective for investors in technology sectors. Furthermore, there has been a complete failure to verify the emission savings and environmental performance of renewable installations installed to date and engineering analysis is clearly showing how ineffective intermittent generators, such as wind and solar, are in delivering reliable energy and effective environmental protection.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration?

-single choice reply-(optional)

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment?

-multiple choices reply-(optional)

Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

ECJ judgement in case C-379/98 in relation to justifying state aid for wind generated renewable electricity was on the basis that it was “useful for protecting the environment in so far as it contributes to the reduction in emissions of greenhouse gases”. “It should be noted that that policy is also designed to protect the health and life of humans, animals and plants”. The Commission is aware it is subject to a Communication ACCC/C/2010/54 at the UNECE Aarhus Convention Compliance Committee in relation to the renewable energy programme in Ireland. This has demonstrated that the funding mechanisms are to ensure delivery of an EU obligation in relation to renewable energy and not part of a commitment, to contribute to any quantifiable environmental target related to quantified carbon dioxide savings. In approving this funding the EU failed to evaluate the environmental effectiveness of the programme or if the citizen’s rights with regard to public participation in decision making had been complied with. The inefficiencies on the grid induced by wind energy were known in advance, but ignored. Emission savings claimed for in the funding application have not occurred. Any further installation of wind energy will not lead to emissions savings, yet a quadrupling is required by the NREAP. A similar situation has occurred in other Member States. Aid schemes approved by the EU for renewable energy are not protecting the environment and saving fossil energy resources.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables?

-single choice reply-(optional)

B.4. Should the structure of financial support be

gradually aligned EU-wide? -single choice reply-  
(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

The Lisbon Treaty requires that: "Decisions shall be taken as openly and as closely as possible to the citizen. The Commission shall carry out broad consultations with parties concerned in order to ensure that the Union's actions are coherent and transparent". The EU has ratified the United Nations Economic Commission for Europe's (UNECE) Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. A Strategic Environmental Assessment (SEA) is mandatory under Directive 2001/42/EC for all programmes leading to future development consent of wind farms and other renewable infrastructure. Communication ACCC/C/2010/54 at the Aarhus Convention Compliance Committee has shown that the Units Heads of DG Environment and DG Energy in June 2010 directed the Member States that no SEA was required for the NREAP if it did not include specific mandatory measures. Note: The renewable targets and the NREAPs are mandatory. The Compliance Committee have concluded that public participation was required for the NREAP and have formally requested: "Could you please explain why the Commission says that it is not responsible for the actions of the Member State in this case?" The Commission is acting without 'proper authority' in the manner in which it is implementing this programme, in that it has deliberately bypassed legally binding procedures related to environmental assessment and democratic accountability.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

The Commission has failed to comply with both the terms of the Lisbon Treaty above and its obligations under the Aarhus Convention with both the structure and the implementation of Directive 2009/28/EC. With regard to implementing a programme of this nature, Article 7 of the Convention is clear: it requires that the public affected be provided with the necessary information, so that they can participate effectively during the preparation of the plan or programme within a transparent and fair framework, when all options are open and effective public participation can take place. EU legislation implements this through the more detailed process of Strategic Environmental Assessment. Furthermore the Commission's legal team in their opening statement to the Aarhus Convention Compliance Committee meeting on Communication ACCC/C/2010/54, stated that in terms of the National Renewable Energy Action Plan, the Irish public were

only entitled under the terms of the Convention to information on threats to the environment. They were not entitled to information on comparative costs or effectiveness of the renewable technologies. Under the Treaty of Lisbon, the citizen has a Right to good administration, a Right to effective remedy and to a fair trial and a Right to have damages made good. The Right to have damages made good applies to institutions and bodies of the EU and Member States when they are implementing Union law.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Europe's population has stabilised, while Europe's industry is more efficient, so electrical power consumption figures are stabilising. Yet to support a renewable programme with unknown figures related to environmental performance, impacts and financial costs, an enormous network development is to be initiated to facilitate unreliable and intermittent renewable generation, e.g. as regards the Republic of Ireland, a doubling of the high voltage grid by an extra 5,000 km. The EU Commission's 'Priority Interconnection Plan' COM (2006) 846 is very critical of 'time consuming public consultation procedures'. Yet this plan has an investment of €30 billion in infrastructure by the EU by 2013, with an estimated €700 – €800 million annually to be spent on connecting more renewable sources. In Com (2011) 658 on a proposal for regulation of a pan-European energy infrastructure, this states in relation to proportionality that the proposal does not go beyond what is necessary to achieve the objectives perused. This is not correct, the renewable programme has by-passed both proper environmental, technical and financial assessment and legally binding measures related to public participation. It is certainly not proportionate in terms of achieving demonstrated environmental protection objectives. Now the citizen is expected to carry the burden of this grid expansion, with massive and unnecessary financial and environmental impacts.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

Both the internal and external costs associated with any grid expansion to facilitate renewable energy need to be assessed and compared with the 'do nothing scenario', given that the existing grid functions without any of this development. With regards to the EU's binding climate change and renewable energy targets, it is necessary to point out Principle 10 of the United Nation's Rio Declaration, namely; "Environmental issues are best handled with participation of all concerned citizens, at the relevant level". These binding targets were decided solely on political considerations, in which there was neither any environmental assessment nor public participation with concerned citizens. These massive grid expansions to facilitate intermittent renewable generation are being forced upon a population, who have neither been informed nor provided with an opportunity to participate in these key decisions. Clearly renewable energy should only be provided with access to the grid, when it demonstrates that it is superior and more effective than current generation capacity. At no stage have the necessary assessments in this regard been completed to justify the preferential treatment provided to such generation. Indeed, ever indication is that the renewable energy being promoted solely for political reasons is not providing any significant environmental benefits, which anyhow could have been achieved with far lower cost and environmental impacts by other means.

D.2.1. Please explain why -open reply-(optional)

As regards grid related rules there is already a huge backlash developing from the general public as more and more grid expansions are developed to facilitate intermittent and ineffective renewable generation, such as wind energy. As the Commission is aware from Communication ACCC/C/2010/54 it approved €110 million in funding for the Ireland-to UK electrical connector, even though the sole purpose of this project was to facilitate more wind energy on the Irish grid, a policy, which had by-passed the legally required public participation. The EU's European Investment Bank has supplied €300 million in loans to the interconnector project and a further €235 million to the State-owned ESB to develop further networks to facilitate wind energy in Ireland. These loans are related to a programme which has by-passed legally required public participation procedures. Now the citizen is expected to pay back this money for infrastructure that is not needed, and for which he was provided with no proper environmental information nor the opportunity to participate in the decision-making. Given that Europe is already heavily indebted it is simply unacceptable that such practices should be

occurring, driven by EU Institutions which have deliberately by-passed the legally binding rules which are applicable to them. Proper accountability and adherence to democratic procedures is not optional with regard to grid development.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

The integration of solar power in Germany has caused a huge financial burden to be placed on the citizen for no real environmental benefit. In 2012 an estimated €100 billion subvention cost only helps delivers 3% of Germany's electricity supply, in an irregular and ineffective manner at that. Indeed the development of renewable electricity in German has essentially doubled generation costs. All other countries that have expanded renewable energy are seeing massive price hikes for the consumer, coupled with a failure to demonstrate any significant decrease in fuel usage or emissions. Once again this demonstrates the failure to properly assess policy before implementation. Input from engineers not in the pay of the wind industry has been deliberately ignored. Europe's industry cannot remain competitive given these massive costs, which are bound to be raised even further due to dysfunctional and ineffective system integration costs for renewable power, which has neither rational nor legal reason to be there in the first place.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

The uptake of renewables in heating and cooling is being driven, both at EU and Member State level, by policies which have not been properly assessed and whose implementation is related to political expediency and not environmental protection. Indeed the promotion of wood biomass for domestic heating is not only leading to the destruction of natural wood resources, but as the moisture content of such fuel, particular in Northern Europe, is high; it is leading to increased particulate emissions and urban pollution. As regards the renewable Directive, the external costs of existing heating and cooling arrangements are unknown, yet we are to subsidise renewables for which no external cost assessment is available. This type of policy will only lead to unsustainable businesses, which are totally dependent on subsidy bubbles to survive and have little or no viable long term future. The Common Agriculture Policy had its inception in such rash politically-based decision making, in which market-based economics was replaced by a political structure. This agricultural policy resulted in an enormous cost burden for the European citizen, and lead to practices which were unsustainable from both financial and environmental perspectives. It is clear that the EU has not learnt anything from this debacle: it is now rapidly implementing other politically-agreed targets, by-passing legally-required assessment and public participation requirements.

F.2. What pathways do you consider to be the most promising for further increasing the share

Other (please specify)

of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Please specify which other pathways -open reply-(optional)

The counter-productive nature of the EU's energy policies is also evident in the promotion of biomass for domestic heating, with all its associated environmental impacts, plus a significant impact on human health. Yet the most environmentally-effective form of renewable heat, that of electrically-driven heat pumps, is being put out of business by soaring electricity costs caused by the renewables' bubble. Yet at no stage was this considered in a proper assessment as part of policy development. As Der Spiegel reported in March 2011 in relation to German's Eco-Trap: "Not everything that looks green serves the environment. The ecological principle of proceeding with care doesn't seem to apply to environmental policy. The more, the better, seems to be the principle. No one is calculating whether all the billions being invested in protecting the environment are actually being spent wisely. Ordinary citizens can't judge it and many experts have no interest in shedding any light on this aspect because their livelihoods are at stake.... In many cases, a closer look at environmental measures reveals that they're expensive and don't have much effect".

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

It is likely that global energy prices will rise in line with both population increase and a general improvement in living standards. Market forces will then dictate that consumers must use energy more efficiently. However, what the EU is proposing instead is a massive intrusion on the Citizen's rights, in that he should be denied access to certain energy sources and forced to use other highly ineffective ones, based on political decisions which have by-passed proper assessment and legally binding public participation procedures. In particular, given that the EU has completely failed to assess and quantify the external costs of carbon dioxide emissions, it has no legal right to restrict the citizen's access to such fuels and introduce massive financial support programmes for those, which may well carry the tag renewable, but in reality do not deliver any environmental benefits which could not have been achieved at a fraction of the cost by a rational and science-based evaluation. While energy efficiency and environmental protection in the heating and cooling sector should be promoted, this should be based strictly on the principles of the Lisbon treaty, namely a highly competitive social market economy and a high level of protection/improvement in the quality of the environment. The current promotion of renewable energy does not fulfil those requirements.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

With regard to the 10% target for transport fuel, this was an essentially political target bereft of any environmental assessment. Indeed, the April 2007 consultation by the Commission was simply a 'Vox Pop' based on four questions: "How should a biofuel sustainability system be designed? How should overall effects on land use be monitored? How should the use of second-generation biofuels be encouraged? What further action is needed to make it possible to achieve a 10% biofuel share?" These questions fail to qualify as public participation in decision making, since the target is already established. The current situation is that the introduction of E10 biofuel into Germany has been a disaster. The Commission is also well aware that it has been sued, accused of violating European transparency laws. Client Earth, Friends of the Earth Europe, Fern and Corporate Europe Observatory filed the lawsuit following the Commission's refusal to provide access to information in decisions related to the sustainability of Europe's Biofuels policy. The 10% target should therefore be reviewed and subject to the proper technical, environmental and financial assessment, in conjunction with proper public participation, which was mandatory for such a biofuel programme in the first place.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail

G.2.1. Please explain your answer -open reply-(optional)

Many European rail networks are electrified and in a number of Member States, particularly Germany, rail costs are soaring as electrical generation costs have effectively doubled due to renewable energy inputs, which are massively ineffective in terms of environmental protection. This is in effect rendering uncompetitive what is an extremely effective form of transportation, particularly for social groups

who would not have ready access to a car. Yet clearly this impact has never been assessed and quantified in the development of these policies which, to quote Mark Twain, are being driven by an administrative structure where “people’s beliefs and convictions are in almost every case gotten at second-hand, and without examination, from authorities who have not themselves examined the questions at issue but have taken them at second-hand from other non-examiners, whose opinions about them were not worth a brass farthing”. One can only wonder if people who have been placed in positions of responsibility for developing EU energy policy did even attempt to understand the impacts of these policies, as certainly there is no documented evidence to demonstrate they did.

## H. SUSTAINABILITY

<p>H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)</p>	<p>No, the existing criteria are already burdensome to implement</p>
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H.1.1. Please explain -open reply-(optional)

The sums of money which have been made available for Europe’s biofuel policies are colossal, and are only matched by the potential for environmental devastation. Given the rising global population, which in many cases can’t feed itself, to divert food products into fuel tanks is simply obscene. Furthermore, Biofuels have not provided the environmental benefits that were claimed. And of course there was no proper environmental assessment of the policy made before it was introduced. This policy should be stopped before it does more damage both in Europe and in poor countries of the South.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
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<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	
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<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>No (explain why)</p>
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Please explain why -open reply-(optional)

As already answered in Section D, existing grid networks are perfectly adequate for today’s and future needs. They may need replacement in relation to the age of the components, but they do not need to be expanded.

<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	
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<p>I.5. In its Communication on security of supply and energy cooperation – “The EU Energy Policy: Engaging with Partners beyond our Borders”, the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>
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In relation to COM (2011) 539 on “The EU Energy Policy: engaging with partners beyond our borders” and the Mediterranean Solar Plan, we comment that this plan is widely speculative, particularly given the complete failure of solar power to deliver either cost effective or reliable electricity. Europe is already collapsing under a burden of financial debt and it is appalling to see that the EU Commission wants

to increase this burden based on speculative and ill-conceived projects in neighbouring countries. Spain has already had to slash its solar subsidies and Germany cannot continue to support solar development any more, not to mention the fact that neither the citizens nor the environment benefited from these colossal expenditures. Again the Commission is creating a 'bubble economy' for equipment suppliers, while destroying jobs in other sectors with rising electricity prices and unsustainable sovereign debt levels.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

In a similar manner offshore wind is a technology sector associated with massive costs (€4.3 million per MW installed) for an unreliable electricity supply, which in turn has massive environmental impacts, in particular associated with grid expansions. It is distressing that the EU Commission cannot produce any objective documentation to support this technology sector. With regard to the Communication ACCC/C/2010/54 and Ombudsman Complaint 2587/2009/JF of 3rd Feb 2011 on the Irish State Broadcaster, the EU Commissioner for Climate Action Connie Hedegaard stated in relation to offshore wind: "It actually pays off, it is sound economics". When a formal reply was received concerning a request for supporting technical information, no such documentation was provided. The reply said: "...as the Commissioner's statement did not refer to any particular project or development, nor was it based on any one or particular piece of documentation but on publicly available information and her general experience, knowledge and political views". The only document available, from the European Environment Agency on "Europe's onshore and offshore wind energy potential", quotes the European Wind Energy Association as its technical source. How objective can that be?

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Some very serious questions have to be answered concerning the taxpayers' money being diverted into renewable energy research, in particular as there has been a complete lack of data made available as to the environmental effectiveness of this sector, despite it being a legal obligation to possess and to update such environmental data. With regard to the Intelligent Energy Europe programme, both projects funded by the EU Commission in relation to wind energy, "Wind Energy - The Facts" and "GP Wind" contain blatantly incorrect claims about the emissions and fuel savings from this intermittent source, in which the inefficiencies induced on the grid are ignored. Under Regulation 1367/2000, which imposes the requirements of the Aarhus Convention on Institutions of the EU, the EU Commission is refusing to confirm how it complies with its legal requirements in relation to the two programmes, i.e. that it shall, insofar as is within its power, ensure that any information that is compiled by it, or on its behalf, is up-to-date, accurate and comparable. In particular with regard to "Wind Energy – The Facts", the EU contributed 50% of the €773,662 used by the European Wind Energy Association to run a "dissemination" campaign. Yet at no stage has an independent and transparent technical analysis ever been completed of the EU's colossal support for wind energy and its effectiveness.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The Treaty of Lisbon is clear, in that the Union "shall promote scientific and technological advance". Wind, solar photovoltaic and biofuels, which are cornerstones of the mission of the SET plan, have not to date, and there are absolutely no indicators that they will in the future, provided a reliable, cost effective and environmentally-effective source of energy. They are not therefore connected with any

scientific and technological advance. Neither is there transparency in the manner in which the SET plan is being implemented. Not only is there a complete failure to assess the environmental effectiveness of the above technologies, which are the only justification for their financial support framework, but as regards wind energy the output is dominated by the European Wind Energy Association, instead of the required independent and transparent technical analysis of this sector, which is being provided with colossal support at the citizen's expense. There is every indication that the EU Commission is providing funding for industrial sectors in a manner which is opaque, and detrimental to the requirements of the Lisbon Treaty to promote "a highly competitive social market economy, aiming at full employment and social progress".

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

The EU Commission needs to comply with its legal requirements under the Aarhus Convention, to possess and update environmental information which is relevant to its function. Note: environmental information includes not only information on emissions and impacts, but also cost benefit and other economic analysis. To date the Commission has failed, despite a legal requirement to do so, to assess the renewable energy it so actively supports and to determine the external impacts of non-renewable sources. As it wrote in reply to UNECE in Communication ACCC/C/2010/54, "it is generally recognised that renewable energy, and wind energy in particular, is preferential from an environmental point of view to non-renewable energy". Its position is therefore based on 'public opinion', not on technical expertise, while failing legal compliance. If the "polluter pays" principle allows external costs to be internalised, this must be based on a transparent and factual analysis, which to date has been bypassed. Energy policy going forward must be supported by evidence-based assessments rather than soundbites, e.g. "In the opening months of 2007, the European Union stepped up its energy and climate change ambitions to new levels. The Commission put forward an integrated package of proposals calling for a quantum leap in the EU's commitment to change. A political consensus grew up in support of this approach" - SEC(2008) 85/3 of January 2008.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

The answer to this question has been amply covered in the replies above. The EU has implemented a massive renewable energy programme, putting mandatory targets on Member States, plus a colossal financial burden on the citizen, adverse health effects, and huge unwarranted environmental impacts on Europe's landscape and biodiversity. At every stage of the process, legally binding procedures related to assessment and public participation were bypassed. The European Commission must recognise the complete ineffectiveness of its energy policy and bring it to a halt, or inevitably the European Courts will do it for them, and ensure damages are made good. "Saving the planet" is but a fantasy in a context where the remedy is worse than the illness. Biofuels cause deforestation, use as much oil as they save, and increase the price of food. Wind farms are a nightmare and a health hazard for millions of unwitting neighbours. They actually cause the extinction of bird and bat species while pretending to save them. Wind and solar energies are a bottomless pit threatening the stability of the euro and the future of the EU. These destructive policies must stop.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

RECS International; secretariat@recs.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply- (optional)	European organisation
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Mandatory EU targets are appropriate with a few conditions: - Renewables have tradable attributes detached from the physical electricity flow to better integrate the demand for these specific technologies. oIncreases consumer choice/demand in electricity production oAllows for market-based support for renewable; this realizes cost efficiency - Open the possibility for cross-border trade and competition for renewables among member states. - Minimize nation specific support schemes by implementing EU-wide support; this will improve the cost efficiency - Specific support based on targets for different technology groups (i.e. a target for: 1. near mature technologies, 2. medium-term technologies, and 3. long-term technologies). Using trading mechanisms it is possible to allow the market to decide which of the technologies within each group is the most cost efficient of the individual technologies within the bigger group. If there are not enough specific RES attributes (tradable separately from the actual physical flow) available on the open market a nation that is rich in the given renewable resource (i.e. Spain and solar) can create more of that production and cancel the attributes for themselves meeting their target. Another option would be to lower their internal costs by creating more attributes than is needed and selling it on the open market to other nations to meet their targets.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Abolition of support mechanism or subsidies to other energy sources - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
Technology specific support should be provided to: 1. Almost mature (near competitive technologies): These technologies should never be provided national support and sparingly provided EU support. The mechanisms should use the electricity-attribute market to allow member-states to compete for their targets or build locally efficient technologies and cancel the attributes before they are released onto the open market. Additional benefits of an attribute trading system are its ability to allow for end-user choice and eventual demand. 2. Immature technology (uncompetitive technologies): A system for R&D progress, currently active in a few US states, could be of service here. In a few states they use a 'technology carve-out', or a target for specific technologies within the larger renewables target focused on immature technologies. By grouping all immature technologies together and creating an EU-wide target of 1-2% for the group of immature technologies the market players can determine which of the technologies within the group is the most cost efficient and hence the most likely to be competitive. The carve-out system has proved that immature technologies can have forced volume growth, as one would see via a feed-in scheme, but in a way that allows the market to choose which specific technologies will become cost-competitive on the open market. The carve out approach is proven to be very flexible and effective in the US.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

For immature technologies: All technologies follow a similar cost curve which requires additional volumes to eventually reduce the costs (i.e. experience curve). The question is which of the technologies will benefit most for the experience curve and which are destined to stay expensive? If the government (eventually the tax payer) has to choose they will often choose incorrectly because there is currently no way to fully internalize costs including R&D when you are relegated to receive the same electricity price as fossil fuel electricity. The additional R&D costs (including increased installed capacity needed for the experience curve) should be incorporated in a combination of targets and market measures. These market measures, allowing nations to compete among all the immature technologies, will determine overtime the most cost-effective future technology. While individual technology specific targets (“carve-outs”) are acceptable, it would be better to group all immature technologies together and have, for example, binding targets EU-wide of 1-2% penetration, or a cap in terms of installed capacity in MW for the whole EU. In this way member states are able to choose which of the immature technologies is the most cost-effective and likely to reach near maturity in the medium-term while forcing increases in the volume of installed capacity in a similar manner that a FIT would provide.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Open up national support schemes to cross-border projects

Please specify how to make support schemes more market-oriented -open reply-(optional)

Near mature technologies – with attributes traded via the GO: 1. End-consumer demand solutions: By strengthening the regulations for green products EU-wide, end-consumers will be able to influence the demand for GOs and help pay for the RES they desire. In this way consumer can choose a specific technology over another via bundled services (GO and electricity delivered from the same supplier) or unbundled services (GO and electricity delivered for separate suppliers). In either scenario the consumer has helped to influence the demand and eventual cost-effectiveness of their chosen technology. 2. National competition for targets: Countries will be able to support technology systems in more efficient locations (i.e. Germany supporting Spanish solar via GO consumption, or France supporting Dutch biomass). If by luck one country is more rich in a particular resource the whole of the EU should support its development together. Governments can setup specific R&D programs for immature technologies, driven by national expertise in the technology. In the end these technologies need to prove themselves in the European market without support to become a realistic option for the future.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

Yes (please explain how this could be achieved and which support structure you consider most suitable)

Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

The current support mechanisms creates inefficiency by allowing RE services to be placed in the location with the highest support-scheme and not necessarily where it would be most cost-efficient. By using the existing support mechanisms such as the Guarantee of Origin the EU would easily and efficiently be able to align support schemes EU-wide.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States - Member States should open their support schemes to renewable generation from third countries

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

The demand for renewable services among the public is also rising. This demand should be used to the benefit of RES by allowing consumers to choose which electricity production they support -- through their purchase of electricity. Electricity products should be better regulated so the consumer is better aware if the electricity product they are purchasing is actually that technology. Since you cannot track electricity through physical flows a GO must be used to track electricity consumption. Voluntary electricity consumption from the end-user could increase demand and decrease the cost of renewable services. Currently Belgium, the Netherlands, and Austria regulate that if a supplier sells a 'green' product that the supplier must also cancel sufficient GOs to make that claim. This should be corrected and harmonized EU wide for both the cost-effectiveness of RES and consumer information/trust in the sector.

Please explain how it could be achieved for third countries -open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Individual national support schemes distort the market by confusing cost-efficiency with financial-support. However, in general all support schemes with the exception of a fully disclosed bottom-up electricity market are distorting. The traditional top-down market was developed at a time when the product was electricity and not its originating location – times have changed. By denying the consumer the ability to vote with their purchase for a specific technology there have been cost inefficiencies created. All subsidies, including those for fossil fuels could be taken away if it were replaced with an electricity tracking system that tracked every MWh of electricity. This system also works well with targets, forcing changes over-time but still giving the opportunity of choice to the final consumer of the electricity.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?) - Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

By increasing competition, and harmonization across Europe, costs such as these could easily be internalized, mirroring the actual cost of the electricity production.

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Developing demand response signals includes the continued use and EU-wide harmonization of the GO. In Response to E.3: By allowing electricity to become more than the physical flow you allow some electricity sources to be traded above and beyond the traditional electricity price. RE attributes would be more in demand (whether because of targets, or direct consumer demand) than traditional fossil fuels allowing them to retain a higher price per/unit electricity.

E.3. In how far do you think today's market design needs to be adapted to provide an

Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

appropriate framework for renewables -single  
choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

Sustainability cannot be ignored, but while national regulations are currently sufficient it would be more sensible to make sustainability requirements EU-wide – in this way national legislation cannot overly distort the market. Sustainability criteria should be in place for all production technologies including biomass, fossil fuels, and renewables.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added  
-open reply-(optional)

Current rules for cooperation allow for significant market distortions. As previously mentioned, allowing separate national support schemes can create technological inefficiencies as a RES producer is enticed to go where the support level is high and not where the

technology would be most efficient.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

As long as the system is trustworthy and audited a GO trading system can be perfectly functioning in neighbouring countries or even further. Projects, such as the Desertec project, are important for the future sustainability of the EU. The GO system in combination with target requirements could provide the necessary incentives allowing projects like this to succeed in a way national targets never would.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

In the short-term investments such as these will be necessary to minimize grid congestion. In the long-run no priority should be given.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Mark Duchamp, Save the Eagles International, save.the.eagles@gmail.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

Other (please specify)

Which other country? -open reply-(optional)

global

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

No, targets for renewable energy sources are unnecessary

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The Principle of Proportionality is binding in both the development of EU legislation and State Aid for environmental protection. To comply it has to be demonstrated (a) what greenhouse gas tonnages are to be reduced; (b) the cost basis for implementation and the alternative implementation strategies considered and (c) the environmental objectives involved, namely the environmental degradation

which is to be avoided. Neither the NREAPs nor the EU's documentation for Directive 2009/28/EC demonstrate (a) or (b). Directive 2001/77/EC required by the end of 2005 a report which should: "Consider the progress made in reflecting the external costs of electricity produced from non-renewable energy sources and the impact of public support granted to electricity production". This cannot be found. In DG Clima's analysis in March 2010 of a possible initiative to step up beyond 20% greenhouse gas savings: "Explain how the options respect the proportionality principle? Climate change is a transboundary environmental problem. Achieving GHG reductions targets in the EU requires a balanced distribution of efforts between countries and sectors in order to ensure that the environmental objectives are met, but also the common market is not unduly hampered". Neither is there an answer to (C). Furthermore, the Commission has failed to comply with the decision of the EU Ombudsman in Complaint 2587/2009/JF. The renewable programme is a breach of the most fundamental principle of EU law.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

Other (please specify)

-multiple choices reply-(optional)

Please specify which other policy elements? -open reply-(optional)

"The long-term perspective of investors" and the EU's ambition to move towards a reduction of 80-95% of GHG emissions in a 2050 perspective is the focus of this consultation and resulting measures. The Lisbon Treaty is clear in that the "Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance. Each institution shall act within the limits of the powers conferred on it in the Treaties. The institutions of the Union shall apply the principle of proportionality". Massive costs and environmental impacts are occurring and the Commission and the Member States have failed to demonstrate, how the renewable energy programme and the focus of this consultation, are in compliance with the terms of the Lisbon Treaty above. The citizen's interest does not lie with a 95% reduction in GHG emissions and establishing a long term perspective for investors in technology sectors. Furthermore, there has been a complete failure to verify the emission savings and environmental performance of renewable installations installed to date and engineering analysis is clearly showing how ineffective intermittent generators, such as wind and solar, are in delivering reliable energy and effective environmental protection.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

N/A

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

ECJ judgement in case C-379/98 in relation to justifying state aid for wind generated renewable electricity was on the basis that it was "useful for protecting the environment in so far as it contributes to the reduction in emissions of greenhouse gases". "It should be noted that that policy is also designed to protect the health and life of humans, animals and plants". The Commission is aware it is subject to a Communication ACCC/C/2010/54 at the UNECE Aarhus Convention Compliance Committee in relation to the renewable energy programme in Ireland. This has demonstrated that the funding mechanisms are to ensure delivery of an EU obligation in relation to renewable energy and not part of a commitment, to contribute to any quantifiable environmental target related to quantified carbon dioxide savings. In approving this funding the EU failed to evaluate the environmental effectiveness of the programme or if the citizen's rights with regard to public participation in decision making had been complied with. The inefficiencies on the grid induced by wind energy were known in advance, but ignored. Emission savings claimed for in the funding application have not occurred. Any further

installation of wind energy will not lead to emissions savings, yet a quadrupling is required by the NREAP. A similar situation has occurred in other Member States. Aid schemes approved by the EU for renewable energy are not protecting the environment and saving fossil energy resources.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

The Lisbon Treaty requires that: "Decisions shall be taken as openly and as closely as possible to the citizen. The Commission shall carry out broad consultations with parties concerned in order to ensure that the Union's actions are coherent and transparent". The EU has ratified the United Nations Economic Commission for Europe's (UNECE) Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. A Strategic Environmental Assessment (SEA) is mandatory under Directive 2001/42/EC for all programmes leading to future development consent of wind farms and other renewable infrastructure. Communication ACCC/C/2010/54 at the Aarhus Convention Compliance Committee has shown that the Units Heads of DG Environment and DG Energy in June 2010 directed the Member States that no SEA was required for the NREAP if it did not include specific mandatory measures. Note: The renewable targets and the NREAPs are mandatory. The Compliance Committee have concluded that public participation was required for the NREAP and have formally requested: "Could you please explain why the Commission says that it is not responsible for the actions of the Member State in this case?" The Commission is acting without 'proper authority' in the manner in which it is implementing this programme, in that it has deliberately bypassed legally binding procedures related to environmental assessment and democratic accountability.

C.2. Which policy response to the problems identified above do you consider appropriate?

Other (please specify)

-single choice reply-(optional)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

The Commission has failed to comply with both the terms of the Lisbon Treaty above and its obligations under the Aarhus Convention with both the structure and the implementation of Directive 2009/28/EC. With regard to implementing a programme of this nature, Article 7 of the Convention is clear: it requires that the public affected be provided with the necessary information, so that they can participate effectively during the preparation of the plan or programme within a transparent and fair framework, when all options are open and effective public participation can take place. EU legislation implements this through the more detailed process of Strategic Environmental Assessment. Furthermore the Commission's legal team in their opening statement to the Aarhus Convention Compliance Committee meeting on Communication ACCC/C/2010/54, stated that in terms of the National Renewable Energy Action Plan, the Irish public were only entitled under the terms of the Convention to information on threats to the environment. They were not entitled to information on comparative costs or effectiveness of the renewable technologies. Under the Treaty of Lisbon, the citizen has a Right to good administration, a Right to effective remedy and to a fair trial and a Right to have damages made good. The Right to have damages made good applies to institutions and bodies of the EU and Member States when they are implementing Union law.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	None of the above
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Europe's population has stabilised, while Europe's industry is more efficient, so electrical power consumption figures are stabilising. Yet to support a renewable programme with unknown figures related to environmental performance, impacts and financial costs, an enormous network development is to be initiated to facilitate unreliable and intermittent renewable generation, e.g. as regards the Republic of Ireland, a doubling of the high voltage grid by an extra 5,000 km. The EU Commission's 'Priority Interconnection Plan' COM (2006) 846 is very critical of 'time consuming public consultation procedures'. Yet this plan has an investment of €30 billion in infrastructure by the EU by 2013, with an estimated €700 – €800 million annually to be spent on connecting more renewable sources. In Com (2011) 658 on a proposal for regulation of a pan-European energy infrastructure, this states in relation to proportionality that the proposal does not go beyond what is necessary to achieve the objectives perused. This is not correct, the renewable programme has by-passed both proper environmental, technical and financial assessment and legally binding measures related to public participation. It is certainly not proportionate in terms of achieving demonstrated environmental protection objectives. Now the citizen is expected to carry the burden of this grid expansion, with massive and unnecessary financial and environmental impacts.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other rules -open reply-(optional)

Both the internal and external costs associated with any grid expansion to facilitate renewable energy need to be assessed and compared with the 'do nothing scenario', given that the existing grid functions without any of this development. With regards to the EU's binding climate change and renewable energy targets, it is necessary to point out Principle 10 of the United Nation's Rio Declaration, namely; "Environmental issues are best handled with participation of all concerned citizens, at the relevant level". These binding targets were decided solely on political considerations, in which there was neither any environmental assessment nor public participation with concerned citizens. These massive grid expansions to facilitate intermittent renewable generation are being forced upon a population, who have neither been informed nor provided with an opportunity to participate in these key decisions. Clearly renewable energy should only be provided with access to the grid, when it demonstrates that it is superior and more effective than current generation capacity. At no stage have the necessary assessments in this regard been completed to justify the preferential treatment provided to such generation. Indeed, ever indication is that the renewable energy being promoted solely for political reasons is not providing any significant environmental benefits, which anyhow could have been achieved with far lower cost and environmental impacts by other means.

### D.2.1. Please explain why -open reply-(optional)

As regards grid related rules there is already a huge backlash developing from the general public as more and more grid expansions are developed to facilitate intermittent and ineffective renewable generation, such as wind energy. As the Commission is aware from Communication ACCC/C/2010/54 it approved €110 million in funding for the Ireland-to UK electrical connector, even though the sole purpose of this project was to facilitate more wind energy on the Irish grid, a policy, which had by-passed the legally required public participation. The EU's European Investment Bank has supplied €300 million in loans to the interconnector project and a further €235 million to the State-owned ESB to develop further networks to facilitate wind energy in Ireland. These loans are related to a programme which has by-passed legally required public participation procedures. Now the citizen is expected to pay back this money for infrastructure that is not needed, and for which he was provided with no proper environmental information nor the opportunity to participate in the decision-making. Given that Europe is already heavily indebted it is simply unacceptable that such practices should be occurring, driven by EU Institutions which have deliberately by-passed the legally binding rules which are applicable to them. Proper accountability and adherence to democratic procedures is not optional with regard to grid development.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

The integration of solar power in Germany has caused a huge financial burden to be placed on the citizen for no real environmental benefit. In 2012 an estimated €100 billion subvention cost only helps deliver 3% of Germany's electricity supply, in an irregular and ineffective manner at that. Indeed the development of renewable electricity in Germany has essentially doubled generation costs. All other countries that have expanded renewable energy are seeing massive price hikes for the consumer, coupled with a failure to demonstrate any significant decrease in fuel usage or emissions. Once again this demonstrates the failure to properly assess policy before implementation. Input from engineers not in the pay of the wind industry has been deliberately ignored. Europe's industry cannot remain competitive given these massive costs, which are bound to be raised even further due to dysfunctional and ineffective system integration costs for renewable power, which has neither rational nor legal reason to be there in the first place.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

The uptake of renewables in heating and cooling is being driven, both at EU and Member State level, by policies which have not been properly assessed and whose implementation is related to political expediency and not environmental protection. Indeed the promotion of wood biomass for domestic heating is not only leading to the destruction of natural wood resources, but as the moisture content of such fuel, particular in Northern Europe, is high; it is leading to increased particulate emissions and urban pollution. As regards the renewable

Directive, the external costs of existing heating and cooling arrangements are unknown, yet we are to subsidise renewables for which no external cost assessment is available. This type of policy will only lead to unsustainable businesses, which are totally dependent on subsidy bubbles to survive and have little or no viable long term future. The Common Agriculture Policy had its inception in such rash politically-based decision making, in which market-based economics was replaced by a political structure. This agricultural policy resulted in an enormous cost burden for the European citizen, and lead to practices which were unsustainable from both financial and environmental perspectives. It is clear that the EU has not learnt anything from this debacle: it is now rapidly implementing other politically-agreed targets, by-passing legally-required assessment and public participation requirements.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other pathways -open reply-(optional)

The counter-productive nature of the EU's energy policies is also evident in the promotion of biomass for domestic heating, with all its associated environmental impacts, plus a significant impact on human health. Yet the most environmentally-effective form of renewable heat, that of electrically-driven heat pumps, is being put out of business by soaring electricity costs caused by the renewables' bubble. Yet at no stage was this considered in a proper assessment as part of policy development. As Der Spiegel reported in March 2011 in relation to German's Eco-Trap: "Not everything that looks green serves the environment. The ecological principle of proceeding with care doesn't seem to apply to environmental policy. The more, the better, seems to be the principle. No one is calculating whether all the billions being invested in protecting the environment are actually being spent wisely. Ordinary citizens can't judge it and many experts have no interest in shedding any light on this aspect because their livelihoods are at stake.... In many cases, a closer look at environmental measures reveals that they're expensive and don't have much effect".

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

It is likely that global energy prices will rise in line with both population increase and a general improvement in living standards. Market forces will then dictate that consumers must use energy more efficiently. However, what the EU is proposing instead is a massive intrusion on the Citizen's rights, in that he should be denied access to certain energy sources and forced to use other highly ineffective ones, based on political decisions which have by-passed proper assessment and legally binding public participation procedures. In particular, given that the EU has completely failed to assess and quantify the external costs of carbon dioxide emissions, it has no legal right to restrict the citizen's access to such fuels and introduce massive financial support programmes for those, which may well carry the tag renewable, but in reality do not deliver any environmental benefits which could not have been achieved at a fraction of the cost by a rational and science-based evaluation. While energy efficiency and environmental protection in the heating and cooling sector should be promoted, this should be based strictly on the principles of the Lisbon treaty, namely a highly competitive social market economy and a high level of protection/improvement in the quality of the environment. The current promotion of renewable energy does not fulfil those requirements.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

With regard to the 10% target for transport fuel, this was an essentially political target bereft of any environmental assessment. Indeed, the April 2007 consultation by the Commission was simply a 'Vox Pop' based on four questions: "How should a biofuel sustainability system be designed? How should overall effects on land use be monitored? How should the use of second-generation biofuels be encouraged? What further action is needed to make it possible to achieve a 10% biofuel share?" These questions fail to qualify as public participation in decision making, since the target is already established. The current situation is that the introduction of E10 biofuel into Germany has been a disaster. The Commission is also well aware that it has been sued, accused of violating European transparency laws. Client Earth, Friends of the Earth Europe, Fern and Corporate Europe Observatory filed the lawsuit following the Commission's refusal to provide access to information in decisions related to the sustainability of Europe's Biofuels policy. The 10% target should therefore be reviewed and subject to the proper technical, environmental and financial assessment, in conjunction with proper public participation, which was mandatory for such a biofuel programme in the first place.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Rail
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G.2.1. Please explain your answer -open reply-(optional)

Many European rail networks are electrified and in a number of Member States, particularly Germany, rail costs are soaring as electrical generation costs have effectively doubled due to renewable energy inputs, which are massively ineffective in terms of environmental protection. This is in effect rendering uncompetitive what is an extremely effective form of transportation, particularly for social groups who would not have ready access to a car. Yet clearly this impact has never been assessed and quantified in the development of these policies which, to quote Mark Twain, are being driven by an administrative structure where “people’s beliefs and convictions are in almost every case gotten at second-hand, and without examination, from authorities who have not themselves examined the questions at issue but have taken them at second-hand from other non-examiners, whose opinions about them were not worth a brass farthing”. One can only wonder if people who have been placed in positions of responsibility for developing EU energy policy did even attempt to understand the impacts of these policies, as certainly there is no documented evidence to demonstrate they did.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing criteria are already burdensome to implement
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H.1.1. Please explain -open reply-(optional)

The sums of money which have been made available for Europe’s biofuel policies are colossal, and are only matched by the potential for environmental devastation. Given the rising global population, which in many cases can’t feed itself, to divert food products into fuel tanks is simply obscene. Furthermore, Biofuels have not provided the environmental benefits that were claimed. And of course there was no proper environmental assessment of the policy made before it was introduced. This policy should be stopped before it does more damage both in Europe and in poor countries of the South.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	
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I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	
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I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	No (explain why)
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Please explain why -open reply-(optional)

As already answered in Section D, existing grid networks are perfectly adequate for today’s and future needs. They may need replacement in relation to the age of the components, but they do not need to be expanded.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	
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I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

In relation to COM (2011) 539 on "The EU Energy Policy: engaging with partners beyond our borders" and the Mediterranean Solar Plan, we comment that this plan is widely speculative, particularly given the complete failure of solar power to deliver either cost effective or reliable electricity. Europe is already collapsing under a burden of financial debt and it is appalling to see that the EU Commission wants to increase this burden based on speculative and ill-conceived projects in neighbouring countries. Spain has already had to slash its solar subsidies and Germany cannot continue to support solar development any more, not to mention the fact that neither the citizens nor the environment benefited from these colossal expenditures. Again the Commission is creating a 'bubble economy' for equipment suppliers, while destroying jobs in other sectors with rising electricity prices and unsustainable sovereign debt levels.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

In a similar manner offshore wind is a technology sector associated with massive costs (€4.3 million per MW installed) for an unreliable electricity supply, which in turn has massive environmental impacts, in particular associated with grid expansions. It is distressing that the EU Commission cannot produce any objective documentation to support this technology sector. With regard to the Communication ACCC/C/2010/54 and Ombudsman Complaint 2587/2009/JF of 3rd Feb 2011 on the Irish State Broadcaster, the EU Commissioner for Climate Action Connie Hedegaard stated in relation to offshore wind: "It actually pays off, it is sound economics". When a formal reply was received concerning a request for supporting technical information, no such documentation was provided. The reply said: "...as the Commissioner's statement did not refer to any particular project or development, nor was it based on any one or particular piece of documentation but on publicly available information and her general experience, knowledge and political views". The only document available, from the European Environment Agency on "Europe's onshore and offshore wind energy potential", quotes the European Wind Energy Association as its technical source. How objective can that be?

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Other (please specify)

Please specify which other key challenges

-open reply-(optional)

Some very serious questions have to be answered concerning the taxpayers' money being diverted into renewable energy research, in particular as there has been a complete lack of data made available as to the environmental effectiveness of this sector, despite it being a legal obligation to possess and to update such environmental data. With regard to the Intelligent Energy Europe programme, both projects funded by the EU Commission in relation to wind energy, "Wind Energy - The Facts" and "GP Wind" contain blatantly incorrect claims about the emissions and fuel savings from this intermittent source, in which the inefficiencies induced on the grid are ignored. Under Regulation 1367/2000, which imposes the requirements of the Aarhus Convention on Institutions of the EU, the EU Commission is refusing to confirm how it complies with its legal requirements in relation to the two programmes, i.e. that it shall, insofar as is within its power, ensure that any information that is compiled by it, or on its behalf, is up-to-date, accurate and comparable. In particular with

regard to “Wind Energy – The Facts”, the EU contributed 50% of the €773,662 used by the European Wind Energy Association to run a “dissemination” campaign. Yet at no stage has an independent and transparent technical analysis ever been completed of the EU’s colossal support for wind energy and its effectiveness.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The Treaty of Lisbon is clear, in that the Union “shall promote scientific and technological advance”. Wind, solar photovoltaic and biofuels, which are cornerstones of the mission of the SET plan, have not to date, and there are absolutely no indicators that they will in the future, provided a reliable, cost effective and environmentally-effective source of energy. They are not therefore connected with any scientific and technological advance. Neither is there transparency in the manner in which the SET plan is being implemented. Not only is there a complete failure to assess the environmental effectiveness of the above technologies, which are the only justification for their financial support framework, but as regards wind energy the output is dominated by the European Wind Energy Association, instead of the required independent and transparent technical analysis of this sector, which is being provided with colossal support at the citizen’s expense. There is every indication that the EU Commission is providing funding for industrial sectors in a manner which is opaque, and detrimental to the requirements of the Lisbon Treaty to promote “a highly competitive social market economy, aiming at full employment and social progress”.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

The EU Commission needs to comply with its legal requirements under the Aarhus Convention, to possess and update environmental information which is relevant to its function. Note: environmental information includes not only information on emissions and impacts, but also cost benefit and other economic analysis. To date the Commission has failed, despite a legal requirement to do so, to assess the renewable energy it so actively supports and to determine the external impacts of non-renewable sources. As it wrote in reply to UNECE in Communication ACCC/C/2010/54, “it is generally recognised that renewable energy, and wind energy in particular, is preferential from an environmental point of view to non-renewable energy”. Its position is therefore based on ‘public opinion’, not on technical expertise, while failing legal compliance. If the “polluter pays” principle allows external costs to be internalised, this must be based on a transparent and factual analysis, which to date has been bypassed. Energy policy going forward must be supported by evidence-based assessments rather than soundbites, e.g. “In the opening months of 2007, the European Union stepped up its energy and climate change ambitions to new levels. The Commission put forward an integrated package of proposals calling for a quantum leap in the EU’s commitment to change. A political consensus grew up in support of this approach” - SEC(2008) 85/3 of January 2008.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

The answer to this question has been amply covered in the replies above. The EU has implemented a massive renewable energy programme, putting mandatory targets on Member States, plus a colossal financial burden on the citizen, adverse health effects, and huge unwarranted environmental impacts on Europe’s landscape and biodiversity. At every stage of the process, legally binding procedures related to assessment and public participation were bypassed. The European Commission must recognise the complete ineffectiveness of its energy policy and bring it to a halt, or inevitably the European Courts will do it for them, and ensure damages are made good. “Saving the planet” is but a fantasy in a context where the remedy is worse than the illness. Biofuels cause deforestation, use as much oil as they save, and increase the price of food. Wind farms are a nightmare and a health hazard for millions of unwitting neighbours. They actually cause the extinction of bird and bat species while pretending to save them. Wind and solar energies are a bottomless pit threatening the stability of the euro and the future of the EU. These destructive policies must stop.

## IDENTIFICATION

<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>European Geothermal Energy Council (EGEC), email for contact purposes: l.angelino@egec.org</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>European organisation</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>A combination of EU and sectoral level targets is appropriate, but only if targets are mandatory. Renewable energy is crucial to achieve the EU's objective of reducing GHG emissions by 80-95% by 2050. It is also key to re-launch job growth and local competitiveness, with geothermal requiring local labour force (more than 80% of the value chain is European), with no risk of relocation. The 20% target set in the RES Directive is paving the way for new investments in green technologies, including innovative geothermal systems. Binding targets for 2030, however, are of utmost importance to give more certainty to investors and to ensure a level-playing field with other, highly-subsidised, energy sources, e.g. nuclear, fossil fuels. A combination of EU and sectoral targets in a post-2020 framework should be mandatory and complemented by GHG emission reduction targets as they are interlinked and mutually reinforcing. Furthermore, they should not be limited to a 30% share, as envisaged in the Commission's Energy Roadmap 2050. Such a 30% would actually correspond to business as usual. All sectors are critical to achieve the EU's energy and climate goals. Nevertheless, it is clear that the potential contribution of renewable heating and cooling has been underestimated in the NREAPs. This is also reflected in the poor financial incentives put in place at national and local level. Sectoral targets would be intended to improve the climate for investments for RES H&amp;C technologies.</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)</p>
<p>Please specify which other policy elements? -open reply-(optional)</p>	

● Building obligation; ● Energy Efficiency Targets; ● A strengthened EU Emission Trading Scheme; ● Increasing the renovation rate in the EU;

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support for geothermal will still be needed in order to reduce costs of innovative technologies such as EGS and low temperature power plants. In addition, a support for Geothermal heating will be needed as long as external costs of fossil fuels are not internalised and other market distortions are not removed. It is also worth noting that the financial support to geothermal energy is currently very low, with the exception of Germany and France. Moreover, such a support is in place in only eleven EU member states. NB: EGS (Enhanced Geothermal Systems), uses the high temperature of rocks with artificial water injection and, generally, with enhancement of permeability of the hot reservoir. An Enhanced Geothermal System is an underground reservoir that has been created or improved artificially.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)
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Please specify how to make support schemes more market-oriented -open reply-(optional)

If full market distortions are removed, it is appropriate a switch from feed-in tariffs to feed-in premiums as the specific technology progresses down the learning curve and increases its share on the market.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

The above-mentioned switch should be followed by a gradual phase-out of financial support schemes over time but only on a voluntary base and for those technologies achieving grid parity and a larger market share.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with benchmark values for support level per technology per Member State
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

There is a great difference between electricity and heating and cooling. Electricity may have a wider European market. In this regard, geothermal electricity should be supported by all EU member states whereas today only 11 EU countries have support schemes (e.g. feed-in tariffs or green certificates) in place for this technology. Similarly, an EU geothermal risk insurance scheme should be developed in order to minimise the geological risk. On the other hand, the market for heating is based on local markets and supply. Even though an EU heating and cooling policy is necessary to provide a consistent framework, the development of renewable heating and cooling should be driven by stable national or local incentives. This is also to create a level-playing field with fossil fuels, still receiving considerable government subsidies. In this regard, the UK "Renewable Heat Incentive" is an interesting example, but only to a certain extent. It has actually reproduced the same delay and gap typical of feed-in tariff schemes in the electricity sector. In addition, it is not independent from the state's budget. Hence, it is not providing much more investor certainty.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

This is the case when only certain technologies (e.g. Nuclear, Gas, PV, Wind, etc.) are highly supported in many member states and, for instance, geothermal support schemes are in place in just a few countries, with a lower level of support. The slow development of some RES in certain areas with good resources is mainly due to the complete absence of support schemes. For instance, feed-in tariffs for geothermal are in place in only eleven EU member states. Feed-in tariff systems in all member states would contribute to a more balanced development of renewable energy in Europe and to the further development of new geothermal technologies, primarily EGS, as it is happening in Germany where such a support mechanism is in place and where 41 new geothermal power plants are currently being developed (Source: EGEC Deep Market Report 2011).

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification - Other (please specify)
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Other (please specify) • Lack of regulatory framework for shallow and deep geothermal, drilling and ownership of resources (see GTRH ([www.gtrh.eu](http://www.gtrh.eu)) and Geoelec ([www.geoelec.eu](http://www.geoelec.eu)) projects) Provide explanations: • length and complexity of administrative procedures: simplification is key in order to speed-up the timing. The “One stop-shop principle” should be applied everywhere. Furthermore, public authorities should be trained on geothermal as to have some technical background; • lack of information on support schemes: Geothermal is not supported everywhere so that stakeholders continually investigate for alternative sources of funding; transparency should be applied over support schemes for both conventional and non- conventional sources of energy in order to contribute to create the already mentioned fair level-laying field. For the heating sector the problem is that often only stop & go measures are put in place. The diversity of the support schemes in place represents an additional problem; • Lack of credible and certified training and qualification: Few training courses and certifications are available for geothermal (see Geotrainet project for further information) in order to have a quality and sustainable market

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy	None of the above
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production after 2020? -multiple choices reply- (optional)	
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	
The integration of external costs such as those for gas and electricity infrastructures and new electricity generation, into the overall energy cost would remove many of the obstacles and contribute to create a level-playing field.	
D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
D.2.1. Please explain why -open reply-(optional)	
Priority or guaranteed access and priority dispatch are sufficient renewables-specific grid related rules if a better management and balance of flexible and variable renewable energy sources will be undertaken.	
D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Other (please specify)
Please specify which other measures -open reply-(optional)	
None of the above as the least costly option is to increase the share of flexible renewable sources. Providing renewable base load, flexible renewable energy sources do not have external costs associated with traditional fossil fuels such as storage, grid and supply infrastructures or waste management (CO2, nuclear). In this regard, geothermal is a renewable electricity source providing flexible and renewable baseload that can operate around the clock, anywhere in Europe, with the best load factor of all energy technologies (more than 80%). Geothermal can therefore ensure system stability while reducing grid management costs.	
<b>E. MARKET INTEGRATION</b>	
E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)
Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation? -open reply-(optional)	
Geothermal, being renewable baseload, is a flexible renewable energy source running around the clock, and available anywhere in Europe. Geothermal is providing electricity to the grid according to the demand. Hence, it should be rewarded for its features.	
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Dedicated arrangements to reward availability of generation capacity
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main	

barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Lack of fair competition with conventional sources of energy in heating and cooling. The internalisation of external costs is of utmost importance in this regard.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Meeting Europe's 20% energy saving target is an extraordinary opportunity to re-launch sustainable growth in a time of economic crisis. In the long-term period, more and more energy efficiency improvements are needed. To this end, geothermal and other renewable heating and cooling technologies will be contributing to dramatic reductions in primary energy consumption. Renewable heating technologies provide market ready, efficient and completely carbon-free energy. Electrification of the heating sector should not be encouraged when other truly renewable heat technologies are available and deliver better and more efficient solutions, notably deep and shallow geothermal. Thermal needs should be primarily supplied by thermal sources and decentralised energy demand should also primarily supplied by decentralized energy supply. As a result lower costs and better efficiency will be achieved. Therefore, reducing the electrification of heating and cooling will relieve the stress on the power system and shave peak loads.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
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G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	
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H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	No (please specify how they should be amended or which elements added)
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Please specify how they should be amended or which elements added

-open reply-(optional)

Geothermal can be developed anywhere in the EU. For its development two additional cooperation mechanisms are needed: ● The cooperation mechanism should include a mechanism to develop a European geothermal risk insurance scheme. ● More cooperation in increasing awareness about geothermal and its potential as well as for R&D should be promoted.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

Investments in electricity network in some member states in order to facilitate imports of electricity from third countries should not be encouraged and eventually the costs should be taken into account. What should be prioritised is the development of local flexible renewable energy sources, notably geothermal which is a baseload renewable energy source that can operate around the clock, anywhere in Europe, therefore ensuring system stability.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

It can only be an add-on and it has to focus on RES development for national and regional deployment in third countries. Such a partnership could make sense for developing renewables in that area for use in that area, not for export to the EU. When the EU undertakes joint projects and cooperation with a third country regarding the generation of electricity or heat from renewable sources, the EU should facilitate the concerned country or countries' domestic use of part of the production from the installations covered by the joint project. Furthermore, the third countries involved in joint projects should be encouraged by the EU to develop a renewable energy policy including ambitious targets.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

No, the EU should focus its efforts in developing RES technologies that do not need large infrastructure costs.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies

Other (please specify)

to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

Although geothermal is included in the SET plan, it is not fully integrated and a proper Industry initiative for geothermal must be developed for ● Deploying EGS all over Europe ● Developing smart cities initiative towards a 100% share of renewables in heating and cooling, by also promoting smart electricity and thermal grids

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The challenge is to have a renewable energy mix in the future combining both variable and flexible RES. The objective should be to establish instruments and to adopt measures going into this direction by supporting more R&D for geothermal.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Geothermal Geothermal electricity, notably for the development of EGS (Geothermal Enhanced Systems). This technology is not only available in all EU member states, but it also produces electricity 24 hours a day. The first research projects have to be replicated. Moreover, as it is a capital intensive technology PPPs represent a viable option. Geothermal heating and cooling, in order to promote smart cities, including smart thermal grids

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Successful results: ● EERA - European Energy Research Alliance - Joint Programme on geothermal energy is rather successful as it is mobilizing large resources for R&D in geothermal. it now starts also to cooperate with the industry, which is a great signal ● The European Technology Platform on renewable heating and cooling (RHC TP) which brings together stakeholders from the biomass, geothermal and solar thermal sector - including the related industries - to define a common strategy for the use of renewable energy technologies for heating and cooling and achieving a 100% share in 2050. The work of the platform is successful, but needs implementation as well Industry Initiatives.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

EGEC believes that this is a pre-requisite in order to stimulate innovation. This is the reason why energy technologies not fulfilling these two criteria (i.e. tangible results such as new tools and technologies and within consistent timeframes) should not be prioritised.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Igor Czerny Senior Vice President, European Affairs, EDF - igor.czerny@edf.fr

2. Are you responding to this questionnaire on behalf

Industry

of /as: -single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	France
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
<p>The real challenge to the EU energy policy is the de-carbonisation of the European economy, in which the electricity sector has a role to play : in order to meet the targets of our climate policy each of the three tools at our disposal is indispensable: energy efficiency, nuclear and renewable. The electricity sector is on its way towards de-carbonisation. It can efficiently contribute to combating climate change, provided a sufficient and sustained carbon price signal is sent to the generators. Generation from RES is today more costly than conventional generation but in the long run in a context of rising carbon prices it can be expected to be competitive. If an adequate carbon price signal is sent in the long run binding volume targets should not be necessary. However it makes sense today to subsidize some renewable technologies - at R&amp;D stage as long as they are relatively far from maturity - at production stage to help them go down their learning curve when they are closer to maturity (also see question 2).</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
For technologies relatively close to maturity	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how)
Please specify how to make support schemes more market-oriented -open reply-(optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member	No, support levels should be entirely up to Member States

States' financial support for renewables? -single choice reply-(optional)	
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
<p>Comments to the different B questions It makes sense to subsidize renewable technologies which have not yet reached competitiveness but are expected to do so. Subsidies have to be phased out when the technologies have gone down their learning curve, and have reached parity with conventional generation. Support mechanisms should be cost-efficient in order to minimise the impact on energy bills of consumers, households and companies. This is why - Emerging technologies should be supported at R&amp;D stage. - Regarding more advanced technologies which are subsidized at production stage, revisable cost-efficient mechanisms are preferable. So are mechanisms that efficiently integrate the energy generated from RES in the market. There is no need for harmonisation of electricity support mechanisms. - Its cost-efficiency is not proven. - Resources and current generation fleets are diverse and the most efficient decarbonisation path is different from a member state to another.</p>	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
D.1. Do you consider that any of the following national rules and framework conditions will still	

create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional) None of the above

D.2.1. Please explain why -open reply-(optional)

According to the European Commission Energy Roadmap intermittent generation is likely to have a very high market-share, and to be in the market since it is expected to become competitive. In this perspective priority dispatch, which would trigger costly decisions contrary to the merit order principle, is unsustainable.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional) Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation? -open reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional) Dedicated arrangements to reward availability of generation capacity

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional) Other (please specify)

Please specify which other barriers -open reply-(optional)

As they contribute to CO<sub>2</sub> reduction emission at reasonable cost, heat consumers should bear a fair part of the costs induced by the development of renewables. The development of renewable heat from biomass (including CHP) and of heat pumps should be incentivised. Awareness campaigns and public support are needed.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

Road transport users should bear a fair part of the costs induced by the development of renewables (e. g. through petrol tax).

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria  
-open reply-(optional)

We need strong sustainability criteria regarding biomass and biofuels in order to maintain confidence and acceptability.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Flexibility mechanisms involving third countries should be developed building upon an assessment of the experience gathered so far. Removing the constraint of mandatory physical import should be considered.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)

Priority should be given to R&D aimed at reducing costs in technologies which are being deployed and at developing the competitive technologies of the future

J.4. How successful do you consider the

existing measures have been and which have been the main drawbacks? -single choice reply-  
(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

Dr. Peter Engelhard, RWE AG, peter.engelhard@rwe.com

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-  
(optional)

Germany

4. How would you prefer your contribution to be published on the Commission website, if at all?  
-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?  
-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

A post-2020 target for renewable energy should be mandatory under the condition that it is underpinned with a common and market-based European mechanism for the promotion of renewable energy. The scope of the target should be consistent with the current situation i.e. comprises all sectors (electricity, heat, transport). Any target for renewable energy should be carefully coordinated with Europe's aspirations on GHG-abatement and energy efficiency. A feasible mandatory target for renewables at EU level would enhance the overall reliability of the pathway along which renewable energies are supposed to grow. This supports investors' confidence in both renewable and conventional energies. Furthermore, mandatory targets allow a consistent tracking of targets. Any EU renewables target must be underpinned by a EU market aligned support mechanism which ensures that renewables expand with maximum efficiency, maintaining support from EU citizens. Sectoral targets, however, would be necessarily associated with efficiency losses and should be avoided. Furthermore, it is extremely important that targets for renewables are well coordinated with targets for CO2 and energy efficiency. Renewables targets cannot be set in isolation and the integrity of the ETS as the primary mechanism for carbon reduction must be protected. Ill-coordinated targets will result in fragmented and opaque policies, a lack of transparency for market participants and delayed investment.

<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)</p>
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Please specify which other policy elements? -open reply-(optional)

Policies to promote renewable energies should offer a level playing field for all technologies, project sizes and locations. They should be based on the principle that renewables should be established at lowest cost. Hence, policies and mechanisms to promote renewables should be flexible enough to leave technology choices to the market. National barriers for renewable energies should be lifted wherever possible.

## B. FINANCIAL SUPPORT

<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	<p>For selected technologies/circumstances/markets (please specify)</p>
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Please specify which technologies/circumstances/markets -open reply-(optional)

The need for additional financial support depends on the interaction between renewables and CO2-targets post 2020.

<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects</p>
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Market-oriented support schemes which incentivise generators to sell electricity through the wholesale markets is essential. This is beneficial in terms of better forecasting and scheduling and promotes liquidity in wholesale markets. Non-intermittent and more easily dispatchable renewables like biomass can then be integrated into the market's demand and supply balance. To achieve better market integration there is a need to ensure that gate-closure is close to real time (H-1) so that renewable producers can update their positions as more information becomes available. Encouraging Member States to exploit the most suitable potential sources in each country, through an EU-wide support scheme, would help to drive down the total cost of a large scale switch to renewable sources. This is essential to maintain general political support.

<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>Yes, with EU-wide benchmark values for support level per technology</p>
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<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>Yes (please explain how this could be achieved and which support structure you consider most suitable)</p>
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

A harmonized European support scheme for renewable energies should be gradually approached, which ensures a maximum degree of cost efficiency and allocative efficiency. This should entail a non-discriminatory choice of the optimal location, technology and project size. The Guidelines on State Aid for Environmental Protection would be an ideal vehicle for this. However there should be no retroactive changes, as investments have already been made, and the expected levels and methods of support should be maintained.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity,

heating and cooling, transport). -open reply-(optional)

Answers to questions 3 and 4 refer to electricity from renewable sources and biogas.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

Application of flexible cooperation mechanisms is an evolutionary approach to a European harmonized and market based support scheme for electricity from renewable sources.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

National (feed-in-tariff) schemes combined with (physical) priority access damages the functioning of electricity wholesale markets and have a negative impact on the internal market.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

There is no framework for cross border projects (such as offshore wind). In addition, there is a lack of commonly agreed technical as well as health and safety standards in the offshore industry. Binding decisions especially regarding nature conservation and environmental protection (e.g. EU EIA Environmental Assessment) as well as a comprehensive evaluation of environmental impacts in an early stage of the permission procedure are crucial to ensure security of investment.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Push for more standardisation and harmonisation on EU level or mutual recognition

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

Grid connection rules - Cost-sharing rules - Balancing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Grid connection rules: Non-harmonized grid connection rules may distort management of the synchronous European transmission network. A reliable European 'copper plate' is an important prerequisite for the efficient expansion of electricity from renewable energies in Europe. We recommend for the ENTSO-E network code on grid connection to be finalized in early 2013 to promote harmonized technical requirements for new generation. Cost sharing rules: Absence of commonly agreed cost-sharing rules (mainly grid connection costs) will impede cross border projects such as offshore wind or sun and wind from Africa. Balancing rules: It is essential that there are equal balancing rules for all connections (renewable and non-renewable energy). Renewable producers should therefore sell into the wholesale market and face the same balancing responsibilities as other market participants in order to pave the way for an increasing renewable share in the electricity mix beyond 2020. This requires system operators to allow all market participants to trade until a gate closure at H-1. This will permit RES producers, particularly wind and solar producers, to revise nominations, and to trade out emerging imbalances, as new information becomes available.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Other (please specify)

Please specify which other rules -open reply-(optional)

European harmonized rules for grid regulation, planning and licensing.

D.2.1. Please explain why -open reply-(optional)

As renewables become a more and more substantial part of the generation market and they should be considered as an increasingly mature technology, grid related rules should be applied to all generation sources in a non-discriminatory way. Otherwise, the wholesale market will face increasing levels of distortion. The obligation for network operators to develop network and the guaranteed access should be applied to all generation.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Other (please specify)

Please specify which other measures -open reply-(optional)

The signals given by wholesale MWh energy prices should constitute the primary means of incentivising flexible back-up capacity and demand response. Member States should remove explicit and implicit restrictions on market prices so that markets can perform their central function of balancing supply and demand. Market participants should have strong signals to balance their positions. This will give incentives to suppliers to contract for flexibility (long-term) to hedge the market risks of fluctuating generation. This demand will allow investments in flexible conventional generation capacity and other sources of flexibility. The extension of real-time metering will incentivise demand response and improve market performance. Capacity mechanisms should be considered a last resort as set out in the internal market Directives. They should not be a long term feature of EU electricity market design

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?

-open reply-(optional)

To give renewables incentives to contribute to system stability, they also need the signals from the balancing market. So there should be the same rules for renewables and for non-renewable producers.

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Demand side management is useful to translate wholesale market price signals in efficient customers' behavior. Increasing the scope of SMART metering will help this process. Encouraging flexibility requires price signals in spot markets that reflect the supply-demand situation. Therefore Member States must remove explicit and implicit caps and floors on prices in wholesale spot and balancing markets. Market participants should have strong signals to balance their positions. Introducing mechanisms to reward availability will dampen price signals and impede this process. In addition, rewarding availability may encourage generation which is not flexible enough to respond to rapidly changing circumstances.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of public support - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Many parties need to be involved with diverging individual interests (e.g. landlords and occupants). In addition heat provision has a high "public service" profile and long payback periods for private investors. There is also a lack of clarity on heat grid issues: Who should be responsible for the grid, who should be in the grid, grid neutrality issues.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Solar thermal - Electrification together with higher share of renewables in electricity production - Other (please specify)
---	---

Please specify which other pathways -open reply-(optional)

Heating & cooling storage, heat pumps.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)
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Renewable energy and energy efficiency should be promoted with open and market based schemes.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Limits of availability of sustainably produced biofuels - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Public acceptance

G.2. What sectors of transport do you consider to be the most promising for further increasing	Road for passengers - Road for goods
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the share of renewable energy? -multiple choices

reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

(Heavy) goods transport on road and water have few renewable alternatives and can hardly be electrified. Biofuels could have a large potential in these transport modes.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

Yes, additional criteria should be introduced to promote only the best performing biomass (please specify which)

Please specify which criteria

-open reply-(optional)

EU sustainable criteria should be extended to solid biomass to ensure a level playing field and ensure continued public trust in biomass, as is already being discussed by the EU. The industry has already developed a standard which will facilitate implementation for solid biomass (Initiative Wood Pellet Buyers - IWPB). Measures to counter indirect land use change should also be considered to ensure that biomass remains a solution to the climate problem and does not become counterproductive. In this relatively new field it is important to continue to monitor scientific results and implement new criteria if and when they become necessary to ensure a positive contribution of biomass to reducing global greenhouse gas emissions. For example: extra harvesting of slow growing semi-natural forests, although bringing climate benefits in the long term, may increase CO<sub>2</sub>-emissions in the period up to 2050 in which a substantial reduction of atmospheric CO<sub>2</sub> is needed to meet EU aims. It is therefore important to promote only biomass use which has a positive CO<sub>2</sub>-performance in the relevant time scales and to discuss how to achieve this with science and industry representatives.

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

Criteria for transfers are not yet practicable. Criteria for grid connection of cross-memberstate projects are not clear.

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with third countries should be possible world wide with a particular emphasis on neighboring regions, e.g. in projects like Desetec, MedGrid etc.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

Yes (explain in which way and to which degree)

Please explain in which way and to which degree -open reply-(optional)

Electricity networks in Southern Europe should be fully integrated into a pan-European 'copper plate' and provide cross Mediterranean

hubs for integrating adjacent third parties.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

Flexible cooperation mechanisms as given in the Renewables Directive should be the priority instrument.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

Cooperation should be fostered with respect to the integration of large scale windparks which are supposed to be a pivotal part of Europe's decarbonization strategy. Currently offshore wind is being dealt with at purely national level. Experiences made may be transferred to the integration of other large scale renewables projects such as solar power in Southern Europe and adjacent Mediterranean countries.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Regarding biomass, further development of torrefaction technology and development short rotation coppices. Co-firing and conversion of conventional power plants to biomass is a promising renewable technology, providing appropriate sustainability standards are applied.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

It is very useful to have the SET Plan for the further development of technologies. Regarding the communication and the implementation of results it could be even more successful.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

No. Innovation processes cannot be properly scheduled and planned to meet a certain deadline.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

EWEA (European Wind Energy Association), polilcy@eweaa.

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply-(optional)

Belgium

4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)

Under the name indicated (I consent to publication of my contribution and I declare that none of it is under copyright or patent protection)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to ensure security of supply or technological development benefits) -open reply-(optional)

Since 1997 the EU has had a successful RES policy which has enabled significant progress towards the EU's objectives of reducing GHG emissions and improving EU competitiveness while creating global leaders in renewable technology. Ambitious targets are at the core of the EU's policy for making the transition from a fuel importing EU to a technology exporting one. RES targets are the proven approach to develop a balance between GHGs and should be continued to 2030. The EEA concluded in 2011 that reductions in 2009 GHG emissions was due to the recession and not "low carbon energy". 2050 is one investment cycle away in the power sector. Due to the long lifetime of fossil fuel power plants, to avoid a costly emissions power plant should be built after 2015. The most effective way to avoid this would be an ambitious 2030 RES target, supported by a sufficiently stringent ETS ensuring the polluter pays. Coal and gas will only have a role in a 2050 timeframe if CCS is commercialised and competitive by 2030, if ever. That makes promoting a broad range of renewable energy technologies, infrastructure and energy efficiency the three no-regrets options. Wind power offers additional environmental benefits, compared to conventional fossil and nuclear plants.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs  
Facilitation policies (faster and easier permitting, further grid investments, availability of more sites)  
Support mechanism or subsidies to other energy technologies  
Obligations in support of renewables - Better financing  
Ensure sustainability and scalability - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

- a properly functioning ETS - Policies to internalise external cost of non-GHG pollutants such as NOx, SOx and fly-ash - Offensive trade p European companies to participate in those markets free of restrictive trade policies - an Emissions Performance Standard - creation of an market - a successful renewable energy framework requires effective policies to remove barriers to grids access and barriers in the form of encouraging public support.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/market:

Please specify which technologies/circumstances/markets -open reply-(optional)

The objective of the wind energy sector is to be competitive in a future level playing-field fully liberalised electricity market, and to deliver th cost-effective way. The industry is committed to bringing down the cost of wind energy and already has a positive track record in this respe efforts. The trend toward larger and more cost-efficient turbines has led to a significant decrease in the costs of wind power onshore while time as well as improving grid stability. In addition, economies of scale – driven by stable investment frameworks in the European markets transportation, operations and maintenance will play a major role in making wind energy more competitive towards 2020 and beyond. The down costs will be replicated offshore in the coming years unlocking the exploitation of Europe’s largest indigenous and eternal energy sou generating technologies, particularly nuclear and fossil fuels, onshore wind energy is rapidly improving its competitiveness and is the lowes Lowering and eliminating barriers to RES deployment and long-term, stable investment conditions reduces risk and costs and therefore the

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented ( convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

An ambitious, yet credible, long term RES target of 45%, supplemented by legislation on grid access, planning, intermediate targets, overs critical to ensure that the industry can develop a sustainable economic model and business case going forward. RES financial support mec more convergence, or made more compatible, as well as being highly effective and adapted to technology diversity and maturity. If “more r price signals, support mechanisms should be increasingly exposed and should encourage greater market responsiveness as RES technol increase. In a well-designed and functioning market, producers should take an active part in making the market as efficient as possible, as energy in Denmark, Spain and Germany. RES cannot and should not be seen in isolation from the rest of the power market, but it must be to this consultation – that renewable energy support mechanisms are “necessary due to a number of market failures and imperfections”. If addressed effectively, the need for support to newer, cleaner and smarter renewable technologies would significantly decrease. Market co for when it comes to mature renewable energy technologies – it should be an aim for the entire EU power market.

B.3. Do you think it would be useful to develop common approaches as regards Member States’ financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Memt

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, l reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to op national level and retain control over who benefit

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

No, support schemes do not have a significant di

## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive?</p> <p>-multiple choices reply-(optional)</p>	<p>Length and complexity of administrative procedure authorisation/certification/licensing - Lack of common specifications - Lack of credible and certified training</p>
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<p>C.1.1. Please provide explanations and specific examples where available</p> <p>-open reply-(optional)</p>
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The main issue with administrative procedures is not so much definitive refusals, but the lack of binding deadlines, delays and lack of clarity. Based on our WindBarriers survey, the average administrative lead time in the EU is 42.32 months for onshore wind energy projects, and 46.6 months for offshore projects. The EU average for grid connection lead time is 25.8 months for onshore projects, and ranges from 2 months to 46.6 months. The average lead time for onshore wind energy projects, and ranges from 25.88 months to 76.08 months. These lead times act as a serious impediment to the growth of renewables in the EU. But this is also the case for the lack of harmonised rules for grid codes. The way in which grid code requirements for wind power in the EU are currently implemented leads to gross inefficiencies and additional costs for consumers, manufacturers and wind farm developers. Currently the European wind industry has a high diversity in technical requirements in more than 30 National Grid Codes from a variety of countries. These requirements are often not sufficient, neither technically justified nor economically sound from the point of view of the power system. Such a diverse range of requirements drives up costs and there is a lack of certified experts and of trained civil servants to handle the expected applications.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Strengthen rules to intrude more directly into Member States' roles of different actors (e.g. one-stop-shop), reorganise</p>
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)</p>	<p>Grid connection rules - Cost-sharing rules - Balancing rules</p>
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<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>
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Whether the above mentioned items still play a major role after 2020 depends on how EU legislation (RES Directive and 3rd Liberalisation Directive) will be expected that grid connection requirements will still create problems by that timeframe as the ambiguity and diversity of grid connection requirements are not properly tackled by the current Network Code on grid connection nor at national level by the TSOs. EWEA has proposed a "structural harmonisation of requirements", which we see as one of the essential preconditions to achieving high penetration levels of wind power in the most cost-effective way while maintaining system stability.

[http://www.ewea.org/fileadmin/ewea\\_documents/documents/publications/position\\_papers/110927\\_EWEA\\_Position\\_Paper\\_Towards\\_Euro](http://www.ewea.org/fileadmin/ewea_documents/documents/publications/position_papers/110927_EWEA_Position_Paper_Towards_Euro)

With regards to balancing and curtailment regimes, best operation practices between TSOs must be further developed and properly shared. The RES Control Centre CECRE in Spain is a good example: as well as relying on the most sophisticated forecast tools for wind power generation, the centre allows for reduced imbalances and a cost-efficient operation of the power system with high shares of variable RES. Pooling of generation units and shorter gate-closure times have significant system cost-reduction effects.

<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>Obligation for network operator to develop network - Priority access - Priority dispatch and obligation on TSO</p>
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<p>D.2.1. Please explain why -open reply-(optional)</p>
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Obliging TSOs to develop grid infrastructure is not exclusively triggered by increased RES penetration levels, but also by the need to create a benefit of consumers and for security of supply reasons. The grid is a common good and should continue being so, therefore shall continue to apply. Depending on how far the creation of a truly liberalised IEM will progress by 2020 priority access and dispatch for RES remain a shortcoming in electricity markets should be addressed such as regulated prices, a high degree of market concentration and vertical foreclosure are a compensation to new entrants given there is no functioning internal energy market. They are necessary in the absence of effective competition and development of power generation – vertically integrated national incumbents having developed their power generation portfolio enjoying the benefit of passing on costs and risks on to the consumer bills. They are especially justified for non-dispatchable renewables like wind and solar. Were they properly and were they more adapted to variable RES (incl. shorter gate closure time in intra-day and day ahead), wind's low marginal cost electricity would be sold in the market ahead of any other technology.

<p>D.3. With regard to system integration of wind and solar power,</p>	<p>Accelerate infrastructure development and interconnectors</p>
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what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

measures: better use of interconnectors (implicit time - Enable renewable generators to offer bala

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Balancing risk – producers of renewable energy : responsibility towards TSOs (if so, please specify operator or centrally organised, same balancing rules for variable generation?)

Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or s  
-open reply-(optional)

EWEA agrees that RES should respond to market price signals but is concerned that the premise of the question seems to imply that this i  
respond to market price signals at all times won't alter the decision for RES-E producers to produce or not, to any detectable degree. This  
the merit-order: apart from extreme cases of negative prices, producers of RES electricity will always feed into the grid because fuel and c  
to save from disconnecting your power plant. After 2020 RES producers will certainly be exposed to balancing responsibility towards TSOs  
operators can be in balance is affected by 3 factors: functioning and liquidity of wholesale markets, cross-border interconnectivity and forec  
balancing costs must be borne by wind farm operators, regulators should ensure that these costs are transparent, representing only the re  
load variations, the pattern of demand compared with wind power variations, the operational routines of the power system (e.g. gate-closur  
and quality of the forecast must be taken into account. RES producers should not bear the costs of system operation and maintenance. Th  
and there is no reason why this should change in the future in the future.

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)

Develop demand response to market signals (ple  
smart meters, demand aggregation, interruptible  
arrangements are sufficient to reward flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

Only investments which meet the key feature of flexibility will remain commercially sound investments in the future. The business case for  
continue to decrease as increased price fluctuations and lower average spot market prices will continue to dampen investors' appetite in s  
where investments can be recovered in a more variable system over fewer running hours, e.g. gas power plants, will remain. Besides that  
bigger market place in general will help alleviate economically unsustainable price variability, such as negative prices or excessive price pe  
market mechanisms to continue being a sustainable market form where investors can recuperate their capital costs for the foreseeable futu  
externalities (eg free riders) and additional market distortions with capacity payments. Any market arrangement to enhance flexibility must  
it to the market price signal to determine whether power generation (supply), the demand side or storage technology provides the flexibility  
generation and tackle a potential "missing money" problem in the energy sector, a less market-distortive solution capacity markets could be  
ancillary services where all generators, including renewables could participate.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Electricity markets should evolve into energy ser  
from more than just electricity

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency? -multiple choices reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be facilitated how and with whom, i.e. only neighbouring countries

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Cooperation with third countries is welcome but it must not undermine national and EU renewable energy targets. This should focus on the promotion of a stable regulatory framework for renewables, based on the positive experiences from the EU frameworks, as well as on grids and market design. In its immediate neighbourhood the EU should push for the principles of the 2009 renewables directive (including legislation to be applied, notably by using the framework of the Energy Community. For emerging markets outside of the Energy Community be prioritised. Offensive trade policies to open non-EU markets to allow European companies to participate in those markets free of restrictions the EU and third countries should be prioritised as a tool to develop renewables in neighbouring countries and in emerging markets. The latter market opportunities for European companies. By developing new markets European companies can gradually increase the efficiency of their competitiveness against conventional energy sources. Multilateral agreements on the liberalisation of trade in renewable energy goods with third countries and benefit EU first movers (technology forums, industrial agreements).

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

There should be a careful approach when assisting infrastructure projects outside the EU. Project support for transmission infrastructure in third countries should be provided only with a clear added value for the European energy market. This is even more true for projects within EU that rely on externally produced electricity. Indeed, these must be assessed in view of the vast and mostly still untapped wind and solar resources, as well as insufficient conditions of electricity infrastructure networks, within the European Union.

I.4. Which measures do you consider appropriate and necessary in order to facilitate cooperation between the EU and third countries?

Agreements between the EU and third countries

order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners" the Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and the EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with your national policy? What should be the priorities? -open reply-(optional)

Such cooperation with the Southern Mediterranean countries could represent an interesting opportunity for European renewable energy but could also undermine EU and national renewable energy deployment and achievement of targets.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative. Should this cooperation be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be replicated elsewhere? -open reply-(optional)

The North Sea Countries Offshore Grid Initiative is a successful example of regional cooperation focusing on a common issue, the North Sea at individual Member States' level. However, although effective, this working group remains ad hoc and cross-border cooperation is limited. To have flexible and result-oriented working groups, it would be beneficial to include them in a more long term strategic vision of the sea basins. The EU should support fully such initiatives and promote them in regions where onshore and offshore wind energy development would benefit, such as in

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness  
Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges? How is the EU innovation fabric geared to supporting the significant deployment up to 2050? -open reply-(optional)

The EU has renewable and climate targets for 2020 and the SET-Plan focuses on the development of selected number of technologies to meet these targets. The Energy Roadmap 2050 highlights that wind energy is the key electricity generating technology in all scenarios in 2050. Since the 1st EU research and innovation programme received about €350 million, compared with more than €12 billion for nuclear research. The Horizon 2020 proposal is also far from meeting the needs of these technologies. The first and foremost issues therefore are clear European commitments in terms of regulatory stability post-2020 and financing activities. The EU should develop the following measures: - An EU programme similar to the SET-Plan for the post-2020 - Creation of a dedicated fund to address the public funding support for the development of the R&D activities of the key energy technologies, in particular wind energy. This fund should prioritise their implementation actions according to their different maturity levels, it would help avoiding competing priorities, would stimulate participation and to co-finance and would improve transparency and accelerate the process towards concrete results - Greater involvement of Member States in the development of energy technologies - Optimised and stable national support schemes which are important in development of energy technologies

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the coming decades with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)

The Energy Roadmap 2050 has indicated wind energy as a the key electricity source for the coming decades, however, there is no clear road map after 2020 which would sustain the viability of the wind industrial initiative and would stimulate the development of wind technology. EWEA supports the existing industrial initiatives with appropriate levels of funding as well as certainty for funding in the form of budget lines.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify)

Please specify which drawbacks -open reply-(optional)

The launch of the European Energy Programme for Recovery (EEPR) in 2009 with dedicated EUR 0.5 billion for innovative offshore wind projects

Commission received more good project proposals from the wind industry than it was able to pay - this shows that the wind industry is ready for new technology and increasing market penetration. The launch of the SET-Plan in 2010 was a very successful measure in providing the wind industry with new technology. The Wind Industrial Initiative team has developed a 2010-2012 work programme (in line with the SET-Plan Roadmap) highlighting needs which were only partially taken into consideration by the European Commission and published in several FP7 calls. However, the actual funding levels are far from enough to meet the wind energy potential. The main drawbacks for wind industry are the missing clear EU financial framework for the technology and the absence of the post-2020 regulatory framework.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

Linking the results to be achieved with assistance in technology development is absolutely necessary for both the EU and the Industry. The development could be best expressed through ensuring long term regulatory stability with concrete targets and dedicated public funding for R&D. From the industry perspective European targets and supporting measures would be extremely important in developing risky yet promising technologies. Commitment from both sides regarding the common target would make both sides responsible for the results. In addition, a 2030 European target would be extremely important to attract the private capital to invest in development and deployment of the new technologies.

## IDENTIFICATION

<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>Roger Salomone, EEF, rsalomone@eef.org.uk</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>United Kingdom</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	<p>No, targets for renewable energy sources are unnecessary</p>
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A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

EU policy should promote a cost-effective transition to a low-carbon economy - i.e. carbon dioxide emissions should be cut at least cost to the consumer. From this perspective, the benefit of the EU's 2020 renewable energy target is questionable. Prescribing that a specific proportion of energy must come from certain technologies runs the risk of imposing unnecessary costs on EU energy consumers for no environmental benefit. A wide range of decarbonisation options other than renewable technologies exist - e.g. nuclear power, CHP, energy efficiency, CCS, fuel switching and more efficient use of fossil fuels. The market should be left to decarbonise the energy sector as economically efficiently as possible. Going forward, EU energy policy must place greater emphasis on the interests of consumers and industrial competitiveness. Pushing up energy costs unnecessarily will increase fuel poverty, undermine European industrial

competitiveness and act as a drag on the continent's economic growth. In the long run, it also risks being counterproductive from an environmental perspective by weakening the broad support for action on climate change across the EU. For these reasons, any post-2020 targets should decarbonising the energy supply rather than promoting specific types of technologies.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies
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## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

Market penetration is not the issue, what's important are the maturity and cost of the technologies. Policy can create large artificial markets can be created for immature and expensive technologies. This should be avoided in favour of a policy designed to identify the most cost-effective renewable technologies and bring their cost down through R&D. For early stage technologies, such as wave and tidal power, support is likely to be necessary beyond 2020. However, it may be appropriate to focus support on the development and demonstration of these technologies, rather than their mass deployment, in order to bring down their costs. Relatively mature renewable technologies, such as offshore wind power, should have their support scaled back as they become increasingly cost competitive. Consumers and taxpayers should not provide open-ended subsidies for renewable generators.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how) - Open up national support schemes to cross-border projects - Phase out support schemes over time (please specify for which technologies if applicable)
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Please specify how to make support schemes more market-oriented -open reply-(optional)

Support schemes should be more market-orientated in two respects. First, the level of support should be linked to the market price for energy (e.g. electricity or heating) - i.e. as the market price rises, support should fall to avoid over-subsidising renewable energy. Second, renewable energy should be traded in the wholesale markets to help ensure sufficient liquidity in those markets.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Support schemes for a technology should be phased as the cost of that technology decreases.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	No, support levels should be entirely up to Member States
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
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B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
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<p>the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>Yes, some support schemes are more distorting than others (please specify which you consider most distorting)</p>
<p>Please specify which support schemes you consider most distorting -open reply-(optional)</p>	
<p>One example is the UK's carbon price floor, which artificially increases the price of carbon in the UK relative to that in other EU countries.</p>	
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing</p>
<p>C.1.1. Please provide explanations and specific examples where available -open reply-(optional)</p>	
<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>The approach of the current Directive to lay down a general framework for Member State action is fine</p>
<h2>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</h2>	
<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>None of the above</p>
<p>D.2.1. Please explain why -open reply-(optional)</p>	
<p>Transmission networks should be developed as efficiently as possible, there should be no technology bias, with different types of generation considered and treated according to their merits.</p>	
<p>D.3. With regard to system integration of wind and solar power, what measures do you</p>	<p>Increase flexible back-up capacity (capacity payments ...) -  Increase availability of demand response (smart grids ...) -  Market-based measures: better use of interconnectors (implicit</p>

consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)
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Please specify which other measures -open reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Dedicated arrangements to reward availability of generation capacity - Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc.
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling	Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production
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beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

No, the EU should first focus on developing its own renewable potential

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

N/A

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

N/A

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the

Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

Enrico Rose, ARGE Compost & Biogas Austria, rose@kompost-biogas.info

-open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	NGO
3. Please indicate your country -single choice reply-(optional)	Austria
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
formulating of concrete goals and also measures for the achievement of the goals with the involvement of all key stakeholders so that the change of energy infrastructure and reduction of greenhouse gas emissions is supported by a broad mass in a long term view, after that a binding status is more than sensible	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
implementation of soft measures, to enable rapid market penetration for renewable energy technology such as, Networking, training, quality standards, implementation of verifications systems (e.g. for biomethane feed in and out to the gas network), collaborations, etc.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
In case of commodity dependent technologies like biogas or biomethane a further financial support system will be needed due to the volatile feedstock prices currently and in the future. The creation and hold up of fair conditions for the transport of energy from renewable sources through environmentally friendly transportation infrastructures is a crucial measure also after 2020. It is essential for, the	

electricity grid and gas networks. Fair framework conditions for all network users without distortive fees (exemption from duties and taxes, e.g. biomethane or biomethane mixes with natural gas) for the injection of energy from renewable sources

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

internalisation of extern costs for all types of energy, but especially for fossil fuels. The huge amount of hidden costs within fossil fuels have to be shown in a more transparent way.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

internalisation of extern costs for all types of energy, but especially for fossil fuels. The huge amount of hidden costs within fossil fuels have to be shown in a more transparent way.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

support schemes for fossil fuels are very hidden and intransparent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed

impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	technical specifications - Lack of information on support schemes or other - Lack of credible and certified training and qualification
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

The BIOGAIN project gives a lot of insight in the typical bottlenecks regarding biogas, but also for other renewables typically face. A lot of them are administrative in nature. Permitting for renewable energy plants can be challenging due to the complexity of procedures and long planning periods. Legislation on licensing procedures is long and complicated and there is often no one at the agency to help with explanations and practical assistance. Any measure helping the simplification of permit granting process is welcomed and needed. It is common in many European countries that for a single project, the project developer has to obtain several different permits and authorizations.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

For the wide range of biomethane utilization paths fair grid connection rules to the natural gas network are also crucial for the achievement of the EU Renewable goals. Guaranteed and preferred network access and transmission obligation for both grids still a basic condition beyond 2020.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Obligation for network operator to develop network - Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
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D.2.1. Please explain why -open reply-(optional)  
power and natural gas network

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs
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## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to	Producers of renewable energy should continue to be treated separately (no exposure to conventional market)
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market signals? -multiple choices reply-(optional)	
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

Some kinds of renewable energies, e.g. Biogas could be applied for balancing due to a high flexibility and availability within the whole day.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Electricity markets should evolve into energy services markets, earning revenues from more than just electricity
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other) - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Furthermore national or regional support schemes in the heating sector e.g. financial support for housing construction have to be set up better regarding implementation of renewable heat. Biogas and Biomethane products do not require technical upgrading in existing natural gas use. For example, with a mixture of 60% biomethane and 40% natural gas (based on the existing gas mains) significantly CO2 emissions will be reduced. In the case of connecting to a district heating network of a biogas plant, you can also apply for heat from biogas or biomethane.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Geothermal - Solar thermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The interaction is very important, furthermore the role of architects will become more and more important – renewables need to be integrated in modern architecture to reflect our modern lifestyle.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information - Limits of availability of sustainably produced biofuels - Other (please specify)
--	---

Please specify which other barriers -open reply-(optional)

Launching of a Bio-CNG fuel with at least 20 percent share of biomethane or the use of pure bio-methane combined with a conversion of the public transport, such as in Munich and Augsburg, cities on the way to this environmentally friendly alternative. With the addition of biomethane (compressed biogas CBG) from domestic agriculture to natural gas (compressed natural gas, CNG) in the amount of at least 20% and the common use as a fuel in the transport sector the environmental impact will be reduced significantly because biogas belongs

to the CO<sub>2</sub>-neutral energy sources. In the case of organic waste use as feedstock for the production of biogas, the greenhouse gas balance will be improved dramatically because the greenhouse gas reductions will be double-weighted towards the European 10% target. Bio-CNG is an effective solution for sustainably reducing emissions from road transport. Enhanced replacement of fossil fuels in the transport sector by bio-CNG or pure biomethane makes it possible to counteract climate change effectively - with a mature technology, without limitation of living standard. The infrastructure for the distribution of biogas is invested in practice. The large number of client systems and users is also already in place and ensures competition. Investment incentives for investment in production and upgrading facilities of biomethane (the treatment of biogas to natural gas quality) and fed into the natural gas network are necessary. Since the existing infrast

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for goods - Air

G.2.1. Please explain your answer -open reply-(optional)

In our opinion, the most potential lies in the Road for goods and therefore also in different kinds of biofuels. Furthermore a huge potential is given by shifting towards rail. Electromobility will be implemented for the passenger sector. Enhanced replacement of fossil fuels in the transport sector by bio-CNG or pure biomethane makes it possible to counteract climate change effectively - with a mature technology, without limitation of living standard.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

N/A

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

N/A

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

Bilateral agreements between Member States and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners

beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?  
-multiple choices reply-(optional)

System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?  
-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the : Bundesinnung der Elektrotechniker Adresse: Schaumburgergasse 20/4 1040

<p><b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	Wien , E-Mail elektrotechni
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	Industry
<p>3. Please indicate your country -single choice reply-(optional)</p>	Austria
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	Yes, an indicative and non-legally binding target at EU level is appropriate
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc)
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	Open up national support schemes to cross-border projects
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	Yes, with EU-wide benchmark values for support level per technology
<p>B.4. Should the structure of financial support be</p>	Yes (please explain how this could be achieved and which

gradually aligned EU-wide? -single choice reply- (optional)	support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
Electricity and Transport is EU-wide connected, Heating and Cooling is local	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, some support schemes are more distorting than others (please specify which you consider most distorting)
Please specify which support schemes you consider most distorting -open reply-(optional)	
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of credible and certified training and qualification
C.1.1. Please provide explanations and specific examples where available -open reply-(optional)	
C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
<b>D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES</b>	
D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)	Grid connection rules - Balancing rules
D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)	
D.2. Which renewables-specific grid related	Obligation for network operator to develop network

rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase flexible back-up capacity (capacity payments ...) -  
Accelerate infrastructure development and interconnection -  
Enable renewable generators to offer balancing services to TSOs

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should bear greater responsibility for system costs

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand) - Current market arrangements are sufficient to reward flexibility

Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Building regulations etc.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Electrification together with higher share of renewables in electricity production - Other (please specify)

Please specify which other pathways -open reply-(optional)

Energy from water

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Smart Metering, Smart Grid, Smart Home

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Lack of infrastructure
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Road for goods - Rail
G.2.1. Please explain your answer -open reply-(optional)	
<h2>H. SUSTAINABILITY</h2>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
H.1.1. Please explain -open reply-(optional)	
<h2>I. REGIONAL AND INTERNATIONAL DIMENSIONS</h2>	
I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	N/A
I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	No, the EU should first focus on developing its own renewable potential
I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	Yes (explain in which way and to which degree)
Please explain in which way and to which degree -open reply-(optional)	
for the grids have enough capacity in every direction , but without special references	
I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Agreements between the EU and third countries
I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)	
the possibilities of the grid and the price, it is important not to make the EU controlled with a needless and expensive addiction by third states	
I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the	

rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

It is important to make the EU independent with own energy-source

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

increasing the research funding in this sector

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

create the awareness for new and better products in the community and the policy to appliance increasing the appliance in this sector

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

in many points successful, but also a dubious advancement in some cheap and inutile products like the energy saving lamp and other cheap products like some converters

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Susan Crosthwaite Communities Against Turbines Scotland  
susan@communitiesagainstturbinescotland.com

2. Are you responding to this questionnaire on behalf

NGO

of /as: -single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	United Kingdom
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
<p>The Principle of Proportionality is binding in both the development of EU legislation and State Aid for environmental protection. To comply (a) what greenhouse gas tonnages are to be reduced; (b) the cost basis for implementation and the alternative implementation strategies considered and (c) the environmental objectives involved, ie the environmental degradation which is to be avoided. Neither NREAPs nor EU's documentation for Directive 2009/28/EC demonstrate (a) or (b). Directive 2001/77/EC required by of 2005 a report which should: "Consider the progress made in reflecting the external costs of electricity produced from non-renewable energy sources and the impact of public support granted to electricity production". This cannot be found. In DG Clima's analysis March 2010 of a possible initiative to step up beyond 20% greenhouse gas savings: "Explain how the options respect the proportionality principle? Climate change is a transboundary environmental problem. Achieving GHG reductions targets in the EU requires a balanced distribution of efforts between countries and sectors in order to ensure that the environmental objectives are met, but also the common market is not unduly hampered". Neither is there an answer to (C). Furthermore, the Commission has failed to comply with the decision of the EU Ombudsman in Complaint 2587/2009/JF. The renewable programme is a breach of the most fundamental principle of EU law.</p>	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
<p>"Long-term perspective of investors" and EU's ambition to move towards a reduction of 80-95% of GHG emissions in a 2050 perspective is the focus of this consultation and resulting measures. The Lisbon Treaty is clear the "Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance. Each institution shall act within the limits of the powers conferred on it in the Treaties. The institutions of the Union shall apply the principle of proportionality". Massive costs and environmental impacts are occurring and the Commission and the Member States have failed to demonstrate, how the renewable energy programme and the focus of this consultation, are in compliance with the terms of the Lisbon Treaty above. The citizen's interest does not lie with a 95% reduction in GHG emissions and establishing a long term perspective for investors in technology sectors. Furthermore, the complete failure to verify the emission savings and environmental performance of renewable installations installed to date and engineering analysis is clearly showing how ineffective intermittent generators, such as wind and solar, are in delivering reliable energy and effective environmental protectio</p>	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables	No

<p>post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	<p>Phase out support schemes over time (please specify for which technologies if applicable)</p>
<p>Please specify for which technologies (if applicable) to phase out support schemes over time</p> <p>-open reply-(optional)</p>	
<p>ECJ judgement in case C-379/98 in relation to justifying state aid for wind generated renewable electricity was on the basis that it was “useful for protecting the environment in so far as it contributes to the reduction in emissions of greenhouse gases”. “It should be noted that that policy is also designed to protect the health and life of humans, animals and plants”. The Commission is aware it is subject to a Communication ACCC/C/2010/54 at the UNECE Aarhus Convention Compliance Committee in relation to the renewable energy programme in Ireland. This has demonstrated that the funding mechanisms are to ensure delivery of an EU obligation in relation to renewable energy and not part of a commitment, to contribute to any quantifiable environmental target related to quantified carbon dioxide savings. In approving this funding the EU failed to evaluate the environmental effectiveness of the programme or if the citizen’s rights with regard to public participation in decision making had been complied with. The inefficiencies on the grid induced by wind energy were known in advance, but ignored. Emission savings claimed for in the funding application have not occurred. Any further installation of wind energy will not lead to emissions savings, yet a quadrupling is required by the NREAP. A similar situation has occurred in other Member States. Aid schemes approved by the EU for renewable energy are not protecting the environment and saving fossil energy resources.</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	<p>N/A</p>
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	<p>No</p>
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)</p>	
<p>B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)</p>	<p>N/A</p>
<h2>C. ADMINISTRATIVE PROCEDURES</h2>	
<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables</p>	<p>Other (please specify)</p>

following Member States' implementation of the provisions of the Directive? -multiple choices reply-

(optional)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

The Lisbon Treaty requires that: "Decisions shall be taken as openly and as closely as possible to the citizen. The Commission shall carry out broad consultations with parties concerned in order to ensure that the Union's actions are coherent and transparent". The EU has ratified the United Nations Economic Commission for Europe's (UNECE) Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. A Strategic Environmental Assessment (SEA) is mandatory under Directive 2001/42/EC for all programmes leading to future development consent of wind farms and other renewable infrastructure. Communication ACCC/C/2010/54 at the Aarhus Convention Compliance Committee has shown that the Units Heads of DG Environment and DG Energy in June 2010 directed the Member States that no SEA was required for the NREAP if it did not include specific mandatory measures. Note: The renewable targets and the NREAPs are mandatory. The Compliance Committee have concluded that public participation was required for the NREAP and have formally requested: "Could you please explain why the Commission says that it is not responsible for the actions of the Member State in this case?" The Commission is acting without 'proper authority' in the manner in which it is implementing this programme, in that it has deliberately bypassed legally binding procedures related to environmental assessment and democratic accountability

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

The Commission has failed to comply with both the terms of the Lisbon Treaty above and its obligations under the Aarhus Convention with both the structure and the implementation of Directive 2009/28/EC. With regard to implementing a programme of this nature, Article 7 of the Convention is clear: it requires that the public affected be provided with the necessary information, so that they can participate effectively during the preparation of the plan or programme within a transparent and fair framework, when all options are open and effective public participation can take place. EU legislation implements this through the more detailed process of Strategic Environmental Assessment. Furthermore the Commission's legal team in their opening statement to the Aarhus Convention Compliance Committee meeting on Communication ACCC/C/2010/54, stated that in terms of the National Renewable Energy Action Plan, the Irish public were only entitled under the terms of the Convention to information on threats to the environment. They were not entitled to information on comparative costs or effectiveness of the renewable technologies. Under the Treaty of Lisbon, the citizen has a Right to good administration, a Right to effective remedy and to a fair trial and a Right to have damages made good. The Right to have damages made good applies to institutions and bodies of the EU and Member States when they are implementing Union law.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Europe's population has stabilised, while Europe's industry is more efficient, so electrical power consumption figures are stabilising. Yet to support a renewable programme with unknown figures related to environmental performance, impacts and financial costs, an enormous network development is to be initiated to facilitate unreliable and intermittent renewable generation, e.g. as regards the Republic of Ireland, a doubling of the high voltage grid by an extra 5,000 km. The EU Commission's 'Priority Interconnection Plan' COM (2006) 846 is very critical of 'time consuming public consultation procedures'. Yet this plan has an investment of €30 billion in infrastructure by the EU by 2013, with an estimated €700 – €800 million annually to be spent on connecting more renewable sources. In Com (2011) 658 on a proposal for regulation of a pan-European energy infrastructure, this states in relation to proportionality that the proposal does not go beyond what is necessary to achieve the objectives perused. This is not correct, the renewable programme has

by-passed both proper environmental, technical and financial assessment and legally binding measures related to public participation. It is certainly not proportionate in terms of achieving demonstrated environmental protection objectives. Now the citizen is expected to carry the burden of this grid expansion, with massive and unnecessary financial and environmental impacts.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Other (please specify)

Please specify which other rules -open reply-(optional)

Both the internal and external costs associated with any grid expansion to facilitate renewable energy need to be assessed and compared with the 'do nothing scenario', given that the existing grid functions without any of this development. With regards to the EU's binding climate change and renewable energy targets, it is necessary to point out Principle 10 of the United Nation's Rio Declaration, namely; "Environmental issues are best handled with participation of all concerned citizens, at the relevant level". These binding targets were decided solely on political considerations, in which there was neither any environmental assessment nor public participation with concerned citizens. These massive grid expansions to facilitate intermittent renewable generation are being forced upon a population, who have neither been informed nor provided with an opportunity to participate in these key decisions. Clearly renewable energy should only be provided with access to the grid, when it demonstrates that it is superior and more effective than current generation capacity. At no stage have the necessary assessments in this regard been completed to justify the preferential treatment provided to such generation. Indeed, ever indication is that the renewable energy being promoted solely for political reasons is not providing any significant environmental benefits, which anyhow could have been achieved with far lower cost and environmental impacts by other means.

D.2.1. Please explain why -open reply-(optional)

As regards grid related rules there is already a huge backlash developing from the general public as more and more grid expansions are developed to facilitate intermittent and ineffective renewable generation, such as wind energy. As the Commission is aware from Communication ACCC/C/2010/54 it approved €110 million in funding for the Ireland-to UK electrical connector, even though the sole purpose of this project was to facilitate more wind energy on the Irish grid, a policy, which had by-passed the legally required public participation. The EU's European Investment Bank has supplied €300 million in loans to the interconnector project and a further €235 million to the State-owned ESB to develop further networks to facilitate wind energy in Ireland. These loans are related to a programme which has by-passed legally required public participation procedures. Now the citizen is expected to pay back this money for infrastructure that is not needed, and for which he was provided with no proper environmental information nor the opportunity to participate in the decision-making. Given that Europe is already heavily indebted it is simply unacceptable that such practices should be occurring, driven by EU Institutions which have deliberately by-passed the legally binding rules which are applicable to them. Proper accountability and adherence to democratic procedures is not optional with regard to grid development.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices

reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

The integration of solar power in Germany has caused a huge financial burden to be placed on the citizen for no real environmental benefit. In 2012 an estimated €100 billion subvention cost only helps deliver 3% of Germany's electricity supply, in an irregular and ineffective manner at that. Indeed the development of renewable electricity in German has essentially doubled generation costs. All other countries that have expanded renewable energy are seeing massive price hikes for the consumer, coupled with a failure to demonstrate any significant decrease in fuel usage or emissions. Once again this demonstrates the failure to properly assess policy before implementation. Input from engineers not in the pay of the wind industry has been deliberately ignored. Europe's industry cannot remain competitive given these massive costs, which are bound to be raised even further due to dysfunctional and ineffective system integration costs for renewable power, which has neither rational nor legal reason to be there in the first place.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to

Price risk – producers of renewable energy should operate without any aid

market signals? -multiple choices reply-(optional)	
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other barriers -open reply-(optional)

The uptake of renewables in heating and cooling is being driven, both at EU and Member State level, by policies which have not been properly assessed and whose implementation is related to political expediency and not environmental protection. Indeed the promotion of wood biomass for domestic heating is not only leading to the destruction of natural wood resources, but as the moisture content of such fuel, particular in Northern Europe, is high; it is leading to increased particulate emissions and urban pollution. As regards the renewable Directive, the external costs of existing heating and cooling arrangements are unknown, yet we are to subsidise renewables for which no external cost assessment is available. This type of policy will only lead to unsustainable businesses, which are totally dependent on subsidy bubbles to survive and have little or no viable long term future. The Common Agriculture Policy had its inception in such rash politically-based decision making, in which market-based economics was replaced by a political structure. This agricultural policy resulted in an enormous cost burden for the European citizen, and lead to practices which were unsustainable from both financial and environmental perspectives. It is clear that the EU has not learnt anything from this debacle: it is now rapidly implementing other politically-agreed targets, by-passing legally-required assessment and public participation requirements.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Other (please specify)
---	------------------------

Please specify which other pathways -open reply-(optional)

The counter-productive nature of the EU's energy policies is also evident in the promotion of biomass for domestic heating, with all its associated environmental impacts, plus a significant impact on human health. Yet the most environmentally-effective form of renewable heat, that of electrically-driven heat pumps, is being put out of business by soaring electricity costs caused by the renewables' bubble. Yet at no stage was this considered in a proper assessment as part of policy development. As Der Spiegel reported in March 2011 in relation to German's Eco-Trap: "Not everything that looks green serves the environment. The ecological principle of proceeding with care doesn't seem to apply to environmental policy. The more, the better, seems to be the principle. No one is calculating whether all the billions being invested in protecting the environment are actually being spent wisely. Ordinary citizens can't judge it and many experts have no interest in shedding any light on this aspect because their livelihoods are at stake.... In many cases, a closer look at environmental measures reveals that they're expensive and don't have much effect".

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)
--

It is likely that global energy prices will rise in line with both population increase and a general improvement in living standards. Market forces will then dictate that consumers must use energy more efficiently. However, what the EU is proposing instead is a massive intrusion on the Citizen's rights, in that he should be denied access to certain energy sources and forced to use other highly ineffective ones, based on political decisions which have by-passed proper assessment and legally binding public participation procedures. In particular, given that the EU has completely failed to assess and quantify the external costs of carbon dioxide emissions, it has no legal right to restrict the citizen's access to such fuels and introduce massive financial support programmes for those, which may well carry the tag renewable, but in reality do not deliver any environmental benefits which could not have been achieved at a fraction of the cost by a

rational and science-based evaluation. While energy efficiency and environmental protection in the heating and cooling sector should be promoted, this should be based strictly on the principles of the Lisbon treaty, namely a highly competitive social market economy and a high level of protection/improvement in the quality of the environment. The current promotion of renewable energy does not fulfil those requirements.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

With regard to the 10% target for transport fuel, this was an essentially political target bereft of any environmental assessment. Indeed, the April 2007 consultation by the Commission was simply a 'Vox Pop' based on four questions: "How should a biofuel sustainability system be designed? How should overall effects on land use be monitored? How should the use of second-generation biofuels be encouraged? What further action is needed to make it possible to achieve a 10% biofuel share?" These questions fail to qualify as public participation in decision making, since the target is already established. The current situation is that the introduction of E10 biofuel into Germany has been a disaster. The Commission is also well aware that it has been sued, accused of violating European transparency laws. Client Earth, Friends of the Earth Europe, Fern and Corporate Europe Observatory filed the lawsuit following the Commission's refusal to provide access to information in decisions related to the sustainability of Europe's Biofuels policy. The 10% target should therefore be reviewed and subject to the proper technical, environmental and financial assessment, in conjunction with proper public participation, which was mandatory for such a biofuel programme in the first place.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail

G.2.1. Please explain your answer -open reply-(optional)

Many European rail networks are electrified and in a number of Member States, particularly Germany, rail costs are soaring as electrical generation costs have effectively doubled due to renewable energy inputs, which are massively ineffective in terms of environmental protection. This is in effect rendering uncompetitive what is an extremely effective form of transportation, particularly for social groups who would not have ready access to a car. Yet clearly this impact has never been assessed and quantified in the development of these policies which, to quote Mark Twain, are being driven by an administrative structure where "people's beliefs and convictions are in almost every case gotten at second-hand, and without examination, from authorities who have not themselves examined the questions at issue but have taken them at second-hand from other non-examiners, whose opinions about them were not worth a brass farthing". One can only wonder if people who have been placed in positions of responsibility for developing EU energy policy did even attempt to understand the impacts of these policies, as certainly there is no documented evidence to demonstrate they did.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing criteria are already burdensome to implement

H.1.1. Please explain -open reply-(optional)

The sums of money which have been made available for Europe's biofuel policies are colossal, and are only matched by the potential for environmental devastation. Given the rising global population, which in many cases can't feed itself, to divert food products into fuel tanks is simply obscene. Furthermore, Biofuels have not provided the environmental benefits that were claimed. And of course there was no proper environmental assessment of the policy made before it was introduced. This policy should be stopped before it does more damage both in Europe and in poor countries of the South.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient

N/A

<p>to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	N/A
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	No (explain why)
<p>Please explain why -open reply-(optional)</p>	
<p>As already answered in Section D, existing grid networks are perfectly adequate for today's and future needs. They may need replacement in relation to the age of the components, but they do not need to be expanded.</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	N/A
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>In relation to COM (2011) 539 on "The EU Energy Policy: engaging with partners beyond our borders" and the Mediterranean Solar Plan, we comment that this plan is widely speculative, particularly given the complete failure of solar power to deliver either cost effective or reliable electricity. Europe is already collapsing under a burden of financial debt and it is appalling to see that the EU Commission wants to increase this burden based on speculative and ill-conceived projects in neighbouring countries. Spain has already had to slash its solar subsidies and Germany cannot continue to support solar development any more, not to mention the fact that neither the citizens nor the environment benefited from these colossal expenditures. Again the Commission is creating a 'bubble economy' for equipment suppliers, while destroying jobs in other sectors with rising electricity prices and unsustainable sovereign debt levels.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>In a similar manner offshore wind is a technology sector associated with massive costs (€4.3 million per MW installed) for an unreliable electricity supply, which in turn has massive environmental impacts, in particular associated with grid expansions. It is distressing that the EU Commission cannot produce any objective documentation to support this technology sector. With regard to the Communication ACCC/C/2010/54 and Ombudsman Complaint 2587/2009/JF of 3rd Feb 2011 on the Irish State Broadcaster, the EU Commissioner for Climate Action Connie Hedegaard stated in relation to offshore wind: "It actually pays off, it is sound economics". When a formal reply was received concerning a request for supporting technical information, no such documentation was provided. The reply said: "...as the Commissioner's statement did not refer to any particular project or development, nor was it based on any one or particular piece of documentation but on publicly available information and her general experience, knowledge and political views". The only document available, from the European Environment Agency on "Europe's onshore and offshore wind energy potential", quotes the European Wind Energy Association as its technical source. How objective can that be?</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely</p>	<p>Other (please specify)</p>

wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

Some very serious questions have to be answered concerning the taxpayers' money being diverted into renewable energy research, in particular as there has been a complete lack of data made available as to the environmental effectiveness of this sector, despite it being a legal obligation to possess and to update such environmental data. With regard to the Intelligent Energy Europe programme, both projects funded by the EU Commission in relation to wind energy, "Wind Energy - The Facts" and "GP Wind" contain blatantly incorrect claims about the emissions and fuel savings from this intermittent source, in which the inefficiencies induced on the grid are ignored. Under Regulation 1367/2000, which imposes the requirements of the Aarhus Convention on Institutions of the EU, the EU Commission is refusing to confirm how it complies with its legal requirements in relation to the two programmes, i.e. that it shall, insofar as is within its power, ensure that any information that is compiled by it, or on its behalf, is up-to-date, accurate and comparable. In particular with regard to "Wind Energy – The Facts", the EU contributed 50% of the €773,662 used by the European Wind Energy Association to run a "dissemination" campaign. Yet at no stage has an independent and transparent technical analysis ever been completed of the EU's colossal support for wind energy and its effectiveness.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The Treaty of Lisbon is clear, in that the Union "shall promote scientific and technological advance". Wind, solar photovoltaic and biofuels, which are cornerstones of the mission of the SET plan, have not to date, and there are absolutely no indicators that they will in the future, provided a reliable, cost effective and environmentally-effective source of energy. They are not therefore connected with any scientific and technological advance. Neither is there transparency in the manner in which the SET plan is being implemented. Not only is there a complete failure to assess the environmental effectiveness of the above technologies, which are the only justification for their financial support framework, but as regards wind energy the output is dominated by the European Wind Energy Association, instead of the required independent and transparent technical analysis of this sector, which is being provided with colossal support at the citizen's expense. There is every indication that the EU Commission is providing funding for industrial sectors in a manner which is opaque, and detrimental to the requirements of the Lisbon Treaty to promote "a highly competitive social market economy, aiming at full employment and social progress".

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

The EU Commission needs to comply with its legal requirements under the Aarhus Convention, to possess and update environmental information which is relevant to its function. Note: environmental information includes not only information on emissions and impacts, but also cost benefit and other economic analysis. To date the Commission has failed, despite a legal requirement to do so, to assess the renewable energy it so actively supports and to determine the external impacts of non-renewable sources. As it wrote in reply to UNECE in Communication ACCC/C/2010/54, "it is generally recognised that renewable energy, and wind energy in particular, is preferential from an environmental point of view to non-renewable energy". Its position is therefore based on 'public opinion', not on technical expertise, while failing legal compliance. If the "polluter pays" principle allows external costs to be internalised, this must be based on a transparent and factual analysis, which to date has been bypassed. Energy policy going forward must be supported by evidence-based assessments rather than soundbites, e.g. "In the opening months of 2007, the European Union stepped up its energy and climate change ambitions to new levels. The Commission put forward an integrated package of proposals calling for a quantum leap in the EU's commitment to change. A political consensus grew up in support of this approach" - SEC(2008) 85/3 of January 2008.

J.4. How successful do you consider the

N/A

existing measures have been and which have been the main drawbacks? -single choice reply- (optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

The answer to this question has been amply covered in the replies above. The EU has implemented a massive renewable energy programme, putting mandatory targets on Member States, plus a colossal financial burden on the citizen, adverse health effects, and huge unwarranted environmental impacts on Europe's landscape and biodiversity. At every stage of the process, legally binding procedures related to assessment and public participation were bypassed. The European Commission must recognise the complete ineffectiveness of its energy policy and bring it to a halt, or inevitably the European Courts will do it for them, and ensure damages are made good. "Saving the planet" is but a fantasy in a context where the remedy is worse than the illness. Biofuels cause deforestation, use as much oil as they save, and increase the price of food. Wind farms are a nightmare and a health hazard for millions of unwitting neighbours. They actually cause the extinction of bird and bat species while pretending to save them. Wind and solar energies are a bottomless pit threatening the stability of the euro and the future of the EU. These destructive policies must stop.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

European Confederation of Woodworking Industries, CEI-Bois aisbl

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

Industry

3. Please indicate your country -single choice reply- (optional)

European organisation

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The introduction of mandatory targets has had a number of unwanted side-effects, in particular related to the raw material situation in the woodworking sector. In order to achieve the targets set by 2020, several member states have, in their national renewable energy action plans, put a strong focus on the use of biomass. As wood is one of the most commonly used and targeted biomass sortments, a fierce competition has grown between operators in the woodworking and the energy sector. As the latter in most cases have been able to

benefit from subsidies promoting the use of renewables, this has led to a strong increase in prices and further accentuated unfair competition.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Continue to ensure sustainability and scalability

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

No continuation of financial support for biomass in circumstances/markets where the support mechanisms are distorting the markets for wood raw materials (see also specification given for question 5).

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

No continuation of financial support for biomass in circumstances/markets where the support mechanisms are distorting the markets for wood raw materials

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Support schemes for renewables have and are strongly distorting the markets for woody biomass, a raw material not only for energy production, but also the primary feedstock for e.g. the wood-based panels industries, putting these sectors under extreme pressure.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Geothermal - Solar thermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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EU Member States put a lot of emphasis on biomass rather than other energy sources to achieve their goals. Have these Member States investigated the achievability of their plans?

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
--	--

G.2.1. Please explain your answer -open reply-(optional)	
--	--

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)	
--	--

Any fuel should comply with basic sustainability requirements. For biomass for energy derived from forests, this has to comply with the same sustainability requirements as demanded for other forest-derived products and material. Sustainability has to reconcile and

consider the three pillars: economy, ecology and social aspects. Due care should be taken to ensure that suitable wood assortments are used first to produce wood products and that the “cascade” principle is applied.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to

2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

The woodworking sector already plays an important role as producer and user of renewable energy based on production by-products and bark. It supports the trend towards a new generation of biofuels but insists that this should not impact the traditional user of wood as raw material.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Association of Textile-Clothing-Leather Industry, Jiri Cesal, cesal@atok.cz

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

Czech Republic

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

In general: The EU Climate policy costs have become the cardinal part of the total electricity price and they represent more than 1/3 now.

In addition there is a huge risk that this part of the price will arise rapidly in the future. And this is exactly the part which our worldwide competitors do not have to pay in their bills. If we want to preserve some remains of competitiveness, European industry needs the same conditions as its world competitors do have. This can be achieved in two ways: The European Union must quickly convince other countries about the correctness of the path and the cost of climate change policy will apply to industries in all countries of the world. Till this time this effort has completely failed and has resulted in a sharp harm of the interests of European industry and citizens. Until this succeeds, it is necessary to reassess EU climate change policy and to suspend any action that has brought a disadvantage for European industry against its global competitors. It is necessary to keep in mind that the EU's share is only less than 15% of global emissions. Even if all of Europe has disappeared from the map of the world view it does not solve anything.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Other (please specify)
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Please specify which other policy elements? -open reply-(optional)

R&D is the most effective way because it may decrease costs. The influence of RES support on the electricity price: The price has risen by 22% till 2012 and the share of RES support is 18% from the total price. This situation very negatively affects the European industry competitiveness.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
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Please specify which technologies/circumstances/markets -open reply-(optional)

The operation of RES with non-competitive prices should not be supported at all. The money should be given to R&D. Only when the costs for certain kind of RES are competitive this RES should be installed and operated.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Phase out support schemes over time (please specify for which technologies if applicable)
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Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

For all RES with non-competitive prices.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

There is no doubt the EU climate change policy very negatively affects the European industry competitiveness as a whole. In addition, non-harmonisation of support schemes significantly affects the competitiveness of industry in particular countries within EU. There are various models for surcharge paid by industrial consumers. Czech industry is in the worst situation: The consumer's surcharge is at least twice higher than in other countries (except Germany) and there is no protection for industrial consumers in Czech Republic (Germany has its own system of protection for energy intensive industry). For the reason of fair competition we suggest: - The costs of climate change policy (EU ETS, RES surcharge, ecological taxes, investments to the transmission and distribution grids, biofuels, etc.) should be

clearly quantified in each country. The reasonable amount of these costs should be recommended, or as a percentage of national GDP or better as a percentage of national GDP per inhabitant. - The harmonisation of RES support schemes, their total costs in each country, and the surcharge paid by industrial consumers should be the first step. Potential harmonization could be as follows: 1. Total costs of RES support as a percentage of national GDP per inhabitant 2. The surcharge paid by industrial consumers 3. Level of support (reasonable amount of support provided)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Till this time, the most of measures are oriented to electricity. Industry sector have to pay the most costs and this situation has strongly undermined its competitiveness. This is the worst way we could choose: it has negative influence to the EU economy competitiveness and living standard. This approach is one of the reasons of today's economic crisis. Transport sector has approximately the same share (40%) of emissions, and there are almost no measures in it. And air transport can be taken more as a luxury than economic necessity.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Massive support of RES with non-competitive high prices to unreasonable costs: The boom of photovoltaic plants in cloudy Czech Republic in 2010 is the sad example. We can mention the case of a large international company. They announced they have to dismiss 600 employees because they are not competitive. They would be able to decrease their costs by 640 million CZK/year. But in the same time they have to pay 629 million CZK/year for RES support. Both amounts are approximately the same. That means if there is no RES support the company would have not to dismiss people.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

<p>production after 2020? -multiple choices reply- (optional)</p>	
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>The RES brings the additional costs beside the RES support: Balancing, necessary investments to the grids, backup, ... These costs should be transparently assigned to the total RES costs. RES effectiveness should be evaluated from the point of view of their total costs.</p>	
<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>
<p>Please specify which other rules -open reply-(optional)</p>	
<p>Economical effectiveness should be a basic approach.</p>	
<p>D.2.1. Please explain why -open reply-(optional)</p>	
<p>D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)</p>	
<h2>E. MARKET INTEGRATION</h2>	
<p>E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)</p>	<p>Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)</p>
<p>Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation? -open reply-(optional)</p>	
<p>The same rules for all kind of generation would be most effective.</p>	
<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	
<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>Wholesale markets would have to move to reflecting full costs</p>
<h2>F. RENEWABLES IN HEATING AND COOLING</h2>	
<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable</p>	<p>Lack of suitable information</p>

energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Solar thermal - Other (please specify)
Please specify which other pathways -open reply-(optional)	
Everything which is economically effective.	
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Other (please specify)
Please specify which other barriers -open reply-(optional)	
Energy efficiency of transport should be preferred to RES. For example, the railway transport is 10 time energy effective then road transport, but there are no incentives to prefer it.	
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
G.2.1. Please explain your answer -open reply-(optional)	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
H.1.1. Please explain -open reply-(optional)	
The land should be preferably used for growing food and only the rests for RES production. If the potential of biomass is not realistic it could be dangerous.	
<b>I. REGIONAL AND INTERNATIONAL DIMENSIONS</b>	
I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	N/A
I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)	N/A
I.3. Should investments in electricity networks in	N/A

<p>some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply- (optional)</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply- (optional)</p>	<p>N/A</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply- (optional)</p>	
<p>Economical effectiveness should be a basic approach.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply- (optional)</p>	
<p>Germany should quickly invest to its transmission grid from north to south. The great amount of wind generation have brought troubles to the other national TSOs. This situation does not bring benefit but the real risk of black out.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply- (optional)</p>	<p>Technology performance and cost-competitiveness</p>
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply- (optional)</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply- (optional)</p>	
<p>Nuclear. If we like it or not, this is reliable and cost effective source for at least next 100 years.</p>	
<p>J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply- (optional)</p>	<p>Successful but some drawbacks (please specify which)</p>
<p>Please specify which drawbacks -open reply- (optional)</p>	

The answer depends on point of view: If we evaluate the situation from the aims and targets, there is a great success. But if we do the same from economical point of view, we must see that the competitiveness of industry rapidly decreases.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

<p>1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses.</p> <p>-open reply-(optional)</p>	<p>Mikael Ohlström, Confederation of Finnish Industries EK, mikael.ohlstrom@ek.fi</p>
<p>2. Are you responding to this questionnaire on behalf of /as:</p> <p>-single choice reply-(optional)</p>	<p>Industry</p>
<p>3. Please indicate your country -single choice reply-(optional)</p>	<p>Finland</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all?</p> <p>-single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>

## A. GENERAL POLICY APPROACH

<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?</p> <p>-multiple choices reply-(optional)</p>	<p>No, targets for renewable energy sources are unnecessary</p>
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p> <p>After 2020, renewables should progress towards being fully integrated in the market, with a strong carbon target implemented over the entire energy system. The EU ETS is the major policy instrument on decarbonisation at the EU level, in contrast to EU policies executed through national approaches on RES and energy efficiency. In a post-2020 perspective, ETS should be used to allow those policies to converge. It would allow for achieving a consistent and economically efficient approach to decarbonisation, while facilitating affordability and security of supply. Only 1 main target, namely GHG reduction target, should be adopted. The means (RES, energy efficiency, nuclear power, CCS etc.) to achieve this target must be chosen freely by member countries according to their national circumstances. Only this ensures flexibility and cost-efficiency in actions to reduce greengouse gas emissions and keeps the price of electricity as low as possible (a must for global competitiveness as long as EU has unilateral climate policy).</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:</p> <p>-multiple choices reply-(optional)</p>	<p>Enhanced focus on R&amp;D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting,</p>

improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

DEMONSTRATION aids, already before 2020

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

For selected technologies/circumstances/markets (please specify)

Please specify which technologies/circumstances/markets -open reply-(optional)

Financial support will continue to be necessary to support specific renewable technologies post 2020, but only in the form of support to Research, Development & Deployment.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Making support schemes more market-oriented (please specify how) - Phase out support schemes over time (please specify for which technologies if applicable)

Please specify how to make support schemes more market-oriented -open reply-(optional)

NOT certificate system, but feed-in-tariffs etc. in relation to price of emission allowances, including roof for maximum aid.

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

gradually all of them, beginning with nearly commercial technologies like wind power

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.3. In the long term, the support mechanisms can be phased out. B.4. No, but possible support competition between EU member states should be avoided

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and

Yes, all support schemes distort competition to a similar extent

differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

immature technologies, lack of demonstration/pilot funding

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

EU-wide demonstration/pilot funding should be available (but not from ETS auction revenues or from set-aside of allowances! => set-aside would increase energy prices and harm competitiveness) There should be new allocation within the EU budget.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

Grid connection rules - Cost-sharing rules - Balancing rules - Curtailment regime

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

All these relevant issues need to be addressed way before 2020.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

Obligation for network operator to develop network

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage - Enable renewable generators to offer balancing services to TSOs - Other (please specify)

Please specify which other measures -open reply-(optional)

price signal should be met

## E. MARKET INTEGRATION

<p>E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)</p>	<p>Price risk – producers of renewable energy should operate without any aid - Producers of renewable energy should bear greater responsibility for system costs - Balancing risk – producers of renewable energy should bear balancing responsibility towards TSOs (if so, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?)</p>
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Balancing risk, please specify how: responsibility on individual operator or centrally organised, same balancing rules for all operators or specific rules for variable generation?  
-open reply-(optional)

As renewables become a more and more substantial part of the generation market and mature technology, first priority must be the full integration into the energy market, i.e. more and more mature renewable energy technologies compete with all other types of generation. Renewables should also contribute to the system stability and become a balancing responsible party and if they can provide reliable capacity, they should get the possibility to offer balancing services to TSOs. Overall, the same balancing rules shall be applied to all operators.

<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	<p>Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)</p>
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand  
-open reply-(optional)

Flexibility is especially obtained by some additional backup capacities and demand side management and should be rewarded in the energy market in a technology neutral way, in order to stimulate the necessary investments. Due to structural changes, peak demands have become more extreme and frequent, leading to strong amplitudes of consumption. Development of policies for modulating the demand will limit investments in peak production tools, which often are uneconomical and produce additional emissions. For the take-off of Demand Response, however, it is necessary to ensure equal market access of power generation and demand response programs.

<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>The current wholesale market model based on short-run marginal cost pricing is appropriate</p>
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## F. RENEWABLES IN HEATING AND COOLING

<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	
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<p>F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)</p>	<p>Biomass - Geothermal - Solar thermal - Electrification together with higher share of renewables in electricity production</p>
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

CHP based on biomass production. In Finland already very high share of CHP and advanced systems (including district cooling in

Helsinki and some other areas). But CHP must not be forced because passive houses / nearly zero buildings use so little heating energy that electrification of heating is the cheapest and wisest solution (especially when at the same time power production is going to be more and more carbon neutral).

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Other (please specify)

Please specify which other barriers -open reply-(optional)

Lack of infrastructure: In some extent, the infrastructure will be developed while EVs increase

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Rail

G.2.1. Please explain your answer -open reply-(optional)

Heavy vehicles not cost-efficient enough to use electric engine or fuel cells. Biodiesel in some extent, but sustainable biofuel resources are limited

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

No sustainability criteria on solid biomass (especially wood). Since Durban decisions there's no need for new EU sustainability criteria that would be "somewhere in the middle of international and national sustainability requirements and forest certification". There are several new sustainability element coming: · Durban decisions were made: deforestation is penalized and countries are committed to increase forest sinks · FLEGT Timber Regulation will be applied March 2013 onwards to ensure wood is legally harvested · standardization of sustainability criteria is ongoing in CEN & ISO · Forest Europe process is ongoing and includes criteria EU-wide sustainability criteria for solid and gaseous biomass are acceptable only if they are based on the existing principles and criteria for forest management as defined by Forest Europe.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

I.4. Which measures do you consider

appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Other (please specify)

Please specify which other key challenges

-open reply-(optional)

The technology performance is important - section includes actions on wind and solar power in extreme weather conditions, also electricity storage issue should be covered.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Attention must be paid to getting new innovation to market. The required measures should include more financial support and also share the existing knowledge of creating success. In other words a more systematic "European mentoring" system for new entrepreneurs could be useful. There should be new allocation within the EU budget to energy R&D&D (NOT from ETS auction revenues or by manipulating ETS (set-aside)!).

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Gasification of solid biomass (e.g. in connection to pulverised coal combustion, Finnish examples exists already (Lahti Kymijärvi power plant etc.)); heat pumps and electrification of heating; electrification of transport

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Algis Gaižutis, Chairman of Forest Owners Association of Lithuania

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

Lithuania

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, an indicative and non-legally binding target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

to keep EU economy competitive -an indicative and non-legally binding target at EU level is appropriate

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Better financing possibilities - Other (please specify)

Please specify which other policy elements? -open reply-(optional)

Balanced forestry management policy is required to allow sustainable use of available forest resources

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will

Yes

continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Accelerate convergence of national support schemes
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with benchmark values for support level per technology per Member State
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Yes, the production of green electricity should not be developed using good quality wood resources, which primary should be used for value added products in wood industry

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, all support schemes distort competition to a similar extent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of information on support schemes or other
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

aaaa

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	The approach of the current Directive to lay down a general framework for Member State action is fine
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	<p>None of the above</p>
<p>D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)</p>	
<p>vvv</p>	
<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	<p>Obligation for network operator to develop network - Priority or guaranteed access</p>
<p>D.2.1. Please explain why -open reply-(optional)</p>	
<p>to avoid barriers from energy monopolies</p>	
<p>D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)</p>	<p>Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage</p>
<h2>E. MARKET INTEGRATION</h2>	
<p>E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)</p>	<p>Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid</p>
<p>E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)</p>	
<p>E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)</p>	<p>Electricity markets should evolve into energy services markets, earning revenues from more than just electricity</p>
<h2>F. RENEWABLES IN HEATING AND COOLING</h2>	
<p>F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)</p>	<p>Costs/lack of financial support - Building regulations etc. - Lack of awareness - Lack of suitable information - Lack of public support - Lack of capacity (installers, other)</p>
<p>F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)</p>	
<p>F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)</p>	
<p></p>	

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)  
Costs - Pace of technology development - Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information - Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)  
Road for goods - Rail

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)  
No, the existing criteria are already burdensome to implement

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)  
N/A

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)  
Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)  
N/A

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Dr. Horst Jauschnegg, President of the Austrian Biomass Association

2. Are you responding to this questionnaire on behalf of /as:

NGO

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Austria
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Die Aufteilung der Zielwerte auf ein gesamthaftes EU-Ziel und darüberhinaus auf Sektorziele erscheint als die beste Möglichkeit, die in den MS unterschiedlichen Ausgangspositionen und Voraussetzungen zur Zielerreichung optimal ausnutzen zu können. Es sollten auch verpflichtende sektorale Ziele für die MS ausverhandelt werden. Ohne verpflichtende Zielvorgaben wird die derzeitige Politik geschwächt und der weitere Weg in Richtung Erneuerbare Energieträger wird nicht mehr ausreichend konsequent verfolgt.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
Wirksamer Außenschutz für die innereuropäische Erzeugung nachwachsender Rohstoffe und biogener Energieträger, insbesondere für die innereuropäische Bioethanol- und Biodieselproduktion, durch Aufrechterhaltung der Außenschutzmechanismen wie Einfuhrzölle und einer Maximalimportquote (z.B. 7% des Marktvolumens). Keine weiteren bilateralen Zollabkommen zum Import von Biotreibstoffen und deren Rohstoffen sowie entsprechende genaue Prüfung der Einhaltung der Nachhaltigkeitskriterien aus RL 2009/28/EG Art. 17 bis 19 für außereuropäische Produktionsstätten sowie strenge Kontrolle der Berichtspflichten von Drittländern und deren Bedingungen der land- und forstwirtschaftlichen Produktion im Hinblick auf umweltschonende Wirtschaftsweise und Sozialstandards.	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
Nach den Darstellungen der IEA im aktuellen WEO wurden fossile Energieträger auf globaler Ebene im Jahr 2010 im Ausmaß von 409 Mrd. Dollar staatlich subventioniert, während erneuerbare Energien nur mit 66 Mrd. Dollar unterstützt wurden. Solange konventionelle Energieträger massiv subventioniert werden und die Folgekosten durch deren klimaschädigende Emissionen nicht bewertet werden,	

müssen erneuerbare Energieträger über staatliche Förderprogramme unterstützt werden. Verstärkte Aktivitäten und Bemühungen für Kostenwahrheit (Einberechnung externalisierter Kosten, Darstellung langfristiger Förderungen - z.B. Steinkohle in Deutschland) und Markttransparenz müssen seitens der Kommission bei fossilen Energieträgern dringend gesetzt werden.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes

Please specify how to make support schemes more market-oriented -open reply-(optional)

Fossile Energieformen werden derzeit rund sechs mal stärker gefördert als erneuerbare Energien - im Jahr 2010 wurden lt. IEA global 409 Mrd. Dollar staatliche Subventionen für fossile Energieträger eingesetzt und nur 66 Mrd. Dollar für erneuerbare Energien - dies bewirkt gemeinsam mit ungerechtfertigten Vorteilen bei der Emissionsberechnung (fragwürdiger fossiler Komparator in RL 2009/28/EG und 2009/30/EG) sowie bei Versicherungen (Haftungsbegrenzung bei Atomkraftwerken) eine starke Marktverzerrung zugunsten fossiler Energieträger! Eine umfassende Darstellung der Kostenwahrheit unter Einbeziehung aller externalisierten Kosten und negativer Umwelteffekte bei fossilen Energieträgern erhöht schlagartig die Marktfähigkeit erneuerbarer Energien! Entwicklung einer eigenen EU-Richtlinie zur verpflichtenden Darstellung der Kostenwahrheit bei fossilen Energieträgern! Erhaltung von Möglichkeiten steuerlicher Begünstigungen für erneuerbare Energieformen, insbesondere auch im Treibstoffbereich und in Hinblick auf Steuerfreiheit der Reinverwendung, keine CO2-Steuerkomponenten für biogene Treibstoffe bzw. sonstige biogene Energieträger! Sämtliche Vorteile auf monetärer und nicht monetärer Ebene für fossile und nukleare Energieträger müssen schnellstmöglich und umfassend beendet werden.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

Da in jedem Mitgliedstaat spezifische Gegebenheiten und Entwicklungsstadien bei erneuerbaren Energien bestehen, müssen die Förderungsmechanismen für die unterschiedlichen Technologien in jedem Mitgliedstaat entsprechend individuell optimiert werden. Im Rahmen der Neufassung der Energiesteuerrichtlinie muss die Möglichkeit der steuerlichen Bevorteilung von erneuerbaren Energieträgern, allen voran auch Biotreibstoffen, angelehnt an den Artikel 16 der RL 2003/96/EG, erhalten bleiben. Die vollständige Steuerbefreiung von biogenen Treibstoffen ist ein wesentliches Element in der Marktdurchdringung und Steigerung des Einsatzes selbiger.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

Member States need to be able to continue to operate support schemes on a national level and retain control over who benefits from national schemes

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

Wie bereits mehrfach erwähnt, besteht das größte Problem der Marktverzerrung durch fehlende Kostenwahrheit bei fossilen Energieträgern: Verdeckte Subventionen, Bevorzugung in verschiedensten Regelwerken, unfairer Wettbewerb durch überhöhte Marktmacht (zB. Gazprom) und unverhältnismäßig starke Konzentration von riesigen Finanzmitteln bei wenigen Unternehmen (Ölkonzerne) sind einige Beispiele für grobe Marktverzerrungen zu Ungunsten erneuerbarer Energieträger.

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-

(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Other (please specify)

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

Einheitliche Rahmenregelungen zur Umsetzung diverser Erfordernisse der EU-Richtlinien müssen durch die Europäische Kommission im Einvernehmensprozess mit den MS geklärt werden und dürfen nicht völlig entkoppelten und mandatslosen Normungsprozessen in abgeschotteten CEN-Gremien überlassen werden. Ein klares Negativbeispiel für praxisuntaugliche und überbordend komplizierte administrative Prozesse sind die Vorgaben zu Nachhaltigkeitskriterien in der RL 2009/28 EG und die vielfältigen Zeitverzögerungen seitens der Kommission bei deren konkreten Umsetzung sowie die davon entkoppelten unüberschaubaren Prozesse zu Nachhaltigkeitsnormen. Auf der anderen Seite fehlen im Auftrag der Kommission zu erstellende Europäische Normen für die technischen Spezifikationen bei E10 und B10, die ehealdigst erarbeitet und veröffentlicht werden müssten.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Statt ständig neue und immer kompliziertere Nachhaltigkeitskriterien für nachwachsende Rohstoffe vorzugeben, muss die Kommission endlich effektive Ethikstandards und Nachhaltigkeitsvorgaben für die Bereitstellung fossiler Energieträger entwickeln. Statt ständig größere Barrieren für die Produktion erneuerbarer Energien zu entwerfen, müssen endlich die Rahmenbedingungen bei der Produktion umweltschädlicher fossiler Energieträger geregelt werden! Umgehende Verabschiedung einer Richtlinie zur Kostenwahrheit sowie zu Ethik-, Umwelt- und Nachhaltigkeitsvorgaben bei der Produktion und Bereitstellung fossiler Energieträger!

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

Grid connection rules - Cost-sharing rules - Balancing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Im Rahmen der Regelungen für die Kostenermittlung/-verteilung der Netzkosten von Elektrizität gibt es keine Ausnahmen von z.B. Netzverlustentgelten, Netzzutrittskosten für Ökostrom und die Kosten für allfällig notwendige Netzverstärkungen werden voll und ganz den Ökostromproduzenten angelastet.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

Obligation for network operator to develop network - Priority or guaranteed access

D.2.1. Please explain why -open reply-(optional)

Ohne bevorzugten oder garantierten Netzzugang könnten unüberwindbare bzw. nur sehr schwer überwindbare bürokratische und finanzielle Hürden (Netzzutrittskosten) für kleinere dezentrale Stromerzeuger aufgebaut werden.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage
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## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Producers of renewable energy should continue to be treated separately (no exposure to conventional market)
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E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

Eine besondere Stärke biogener Energieträger ist die Möglichkeit zur bedarfsgerechten Bereitstellung. Die Photosynthese löst das Speicherproblem, Biomasse kann sowohl zur Grundlastabdeckung als auch bei Bedarfspitzen gezielt eingesetzt werden - im Gegensatz zu unkalkulierbaren Produktionsfluktuationen bei Windkraftwerken oder Photovoltaik-Anlagen.

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support - Building regulations etc. - Lack of public support - Lack of capacity (installers, other) - Other (please specify)
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Please specify which other barriers -open reply-(optional)

Durch geringere Stückzahlen bei der Produktion und gleichzeitig aufwendigeren Anlagenteilen für die Brennstoffbeschickung haben vollautomatische Heizsysteme für biogene Energieträger in der Regel deutlich höhere Investitionskosten als Erdgas- oder Ölf Feuerungsanlagen. Die Gewährung von Investitionszuschüssen der Mineralölindustrie zum Tausch von alten Ölkesseln durch neue Ölkessel und die dadurch entstehende Prolongierung der Abhängigkeit von fossilen Heizöl im Wärmesektor auf mehrere Jahrzehnte bei gleichzeitiger Unterversorgung des Treibstoffmarktes mit Dieselmotoren ist höchst kontraproduktiv. De facto wird die Raumwärmeerzeugung mit Heizöl durch die dadurch bewirkten höheren Dieselpreise subventioniert. Die stationäre Verbrennung von fossilen Mitteldestillaten zur Raumwärmeerzeugung müsste daher (mit entsprechenden Übergangsregelungen) EU-weit verboten werden.

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Solar thermal
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F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
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Effizienzsteigerung durch zügige Erneuerung des Heizanlagenbestandes: Durch die Verwendung moderner Biomassekessel kann die Energieeffizienz im Vergleich zu veralteten Allesbrennern durch den optimierten Verbrennungsvorgang und dadurch gesteigerten

Wirkungsgrad deutlich verbessert werden. Im Zusammenspiel mit Speichertechnologien (Pufferspeicher) sowie Kombinationen mehrerer Heizsysteme (Zentralheizung mit z.B. solarthermischer Anlage) können weitere Effizienzsteigerungen erreicht werden. Der Einsatz von Niedertemperaturheizsystemen und deren Wärmeversorgung mittels Wärmepumpe und Solarthermie hat teilweise Berechtigung, eine generelle Elektrifizierung der Raumwärmeerzeugung (Stromheizungen, Nachtspeicheröfen) ist aber höchst ineffizient und daher strikt abzulehnen.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Lack of standards - Lack of infrastructure - Lack of awareness - Lack of suitable information - Other (please specify)

Please specify which other barriers -open reply-(optional)

Unseriöse und emotional gesteuerte Negativkampagnen aus unterschiedlichsten Interessenslagen durch NGOs und sonstige Gruppierungen mit teilweise gezielt falschen Argumenten gegen biogene Treibstoffe zur Generierung von öffentlicher Aufmerksamkeit und/oder Spenden anstelle konstruktiver und sachlicher Beiträge zur Information der Bevölkerung. Bereitschaft der Medien für Negativschlagzeilen bezüglich biogener Treibstoffe in Korrelation zum Werbeetat für fossile Energieträger.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail - Air

G.2.1. Please explain your answer -open reply-(optional)

Im Personenverkehr auf der Straße kann nach entsprechender Verabschiedung der E10 und B10 Normen durch Erhöhung der Beimischungsquoten eine entsprechende Mehrmenge an biogenen Treibstoffen über die bestehende Infrastruktur in Verkehr gebracht werden. Im Gütertransport wird die Abhängigkeit von flüssigen Treibstoffen aufgrund der derzeit nicht praxistauglichen Konzepte zur Elektrifizierung des Antriebsstrangs bei Schwerfahrzeugen noch lange Zeit andauern. Daher wird der Einsatz von biogenen Treibstoffen im Gütertransport steigen. Der Flugsektor ist ebenfalls auf Treibstoffe mit relativ hoher Energiedichte (flüssige Treibstoffe) angewiesen. In diesem Sektor können neben etwaigen Prozesskettenoptimierungen zur Treibhausgasemissionseinsparung keine anderen Alternativen als biogene Treibstoffe eingesetzt werden. Bei der Eisenbahn könnte der Einsatz erneuerbarer Energien einerseits durch den Ausbau und die stärkere Nutzung des öffentlichen Personennah- und -fernverkehrs sowie andererseits durch den stetig steigenden Ökostromanteil im Strommix der MS/EU gesteigert werden.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

No, the existing criteria are already burdensome to implement - No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

In den MS der EU gelten seit Jahrzehnten sehr klare Forstgesetze zur nachhaltigen Biomasseproduktion im Wald und gut eingeführte Nachhaltigkeitsregeln in der Landwirtschaft (Cross Compliance). Die Einführung neuer zusätzlicher Nachhaltigkeitskriterien bedingt zusätzliche Bürokratie und höhere Kosten für die biogenen Energieträger. Gleichzeitig werden fossile Energieträger massiv bevorteilt (Emissionsberechnung) und durch die Nichteinbeziehung von Externalitäten (Umweltkatastrophen, Beschaffungskosten, usw.) zusätzlich massiv finanziell gefördert. Durch die weitere Verschärfung der bestehenden Kriterien und oder zusätzliche Einführung von neuen Nachhaltigkeitsregelungen für nachwachsende Rohstoffe würde eine weitere Marktverzerrung zu Ungunsten der erneuerbaren Energieträger bewirkt werden - dies ist strikt abzulehnen. Statt ständig neue Kriterien und Barrieren für die Produktion nachwachsender Rohstoffe innerhalb der EU zu entwickeln, sollte die Kommission umgehend eine Richtlinie für Mindestvorgaben zur Kostenwahrheit und Ethik-, Umwelt- und Nachhaltigkeitsstandards bei der Produktion fossiler Energieträger entwickeln und in Kraft setzen!

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of

Yes

<p>cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>Kooperationen beim Technologietransfer in allen Bereichen der erneuerbaren Energien und auf allen Ebenen der Forschung und Entwicklung. In Teilbereichen der landwirtschaftlichen Produktion (beispielsweise Ölsaaten) können verstärkte Kooperationen (allen voran mit den angrenzenden Nachbarstaaten - Balkanländer, Ukraine, Weißrussland) zu einer effizienteren Nutzung der umfangreich verfügbaren Brachflächen und Ertragssteigerungspotentialen führen.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>No (explain why)</p>
<p>Please explain why -open reply-(optional)</p>	
<p>Regionale Ver- und Entsorgungskonzepte für überschaubare Energieerzeugungs-Einheiten mit klaren Wertschöpfungseffekten in ländlichen Gebieten sind gegenüber Megaprojekten zur Stromerzeugung zu bevorzugen. Die Priorität sollte daher auf optimale Lösungen für dezentrale Energieversorgungskonzepte gelenkt werden. Versorgungssicherheit mit Energie kann in Krisensituationen mit regionalen Konzepten am besten gewährleistet werden. Die Infrastruktur für Megaprojekte (tausende Kilometer Öl-, Gas- und/oder Stromleitungen) kann im Krisenfall rasch lahmgelegt werden.</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>Vorrang muss jedenfalls die gesteigerte erneuerbare Energie-Produktion innerhalb der EU haben. Versorgungssicherheit der EU kann nicht durch Megaprojekte in politisch instabilen Drittländern erreicht werden, auch nicht mit Solarkraftwerken.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>Die priorisierte Zielrichtung für bessere Versorgungssicherheit sollten dezentrale regionale Energie-Versorgungskonzepte sein - und nicht zentralisierte GroBeinheiten mit riesigen Transferverlusten und -kosten. Umso näher Energieerzeugung und Energieverbrauch räumlich intelligent organisiert und optimal integriert werden können (Smart Grids), umso besser.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart</p>	<p>Technology performance and cost-competitiveness - System integration - Other (please specify)</p>

cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Please specify which other key challenges

-open reply-(optional)

Der SET-Plan fokussiert auf Großanlagen - im Bereich der erneuerbaren Energien und insbesondere im Bereich der nachwachsenden Rohstoffe ist die Gesamteffizienz von Systemen mit überschaubaren Ver- und Entsorgungskonzepten bei kurzen Wegen wesentlich besser als bei Großanlagen. Der SET-Plan zielt daher an den Kernanforderungen für erfolgreiche Systeme mit klarem Regionsbezug vorbei.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Der Fokus muss auf die Optimierung kleiner und mittlerer Energieerzeugungs- und -versorgungssysteme gelegt werden.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Biomassegewinnung durch neue Produktionsbereiche (Algen, Mikroalgen, etc.); Reststoffnutzung der agrarischen Produktion (z.B. Maisspindel, Stroh); Optimierung kaskadischer Nutzungspfade in der Biomasseverwertung

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Forschung und Entwicklung an Demonstrationsanlagen, häufig mit unrealistischen Kostenansätzen für "upscaling" bei Rohstoffkosten. Mehrere Beispiele für Konzepte bei biogener Treibstoffproduktion in 2. Generation mit völlig marktfremden Preiskalkulationen.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Ja. Anderenfalls gibt es seitens der Forschung und Industrie zu geringe Anstrengungen zur Steigerung der Effizienz/Verbesserung der Technologie. Ein Beispiel dafür ist der CO2-Ausstoß der Fahrzeuge - auf Basis der freiwilligen Vereinbarung der Autoindustrie konnten keine größeren Fortschritte in der CO2-Reduktion festgestellt werden. Erst seit ein verbindliches Ziel (mit Sanktionen) besteht, können merkliche Fortschritte festgestellt werden.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Georg Bauer, FECOF, fecof@gstbrp.de

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

<p>3. Please indicate your country -single choice reply- (optional)</p>	<p>Germany</p>
<p>4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)</p>	<p>Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)</p>
<h2>A. GENERAL POLICY APPROACH</h2>	
<p>A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)</p>	
<p>A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)</p>	
<p>A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)</p>	
<h2>B. FINANCIAL SUPPORT</h2>	
<p>B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)</p>	
<p>B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)</p>	
<p>B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)</p>	
<p>B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)</p>	
<p>B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)</p>	
<p>B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of</p>	

a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to

market signals? -multiple choices reply-(optional)	
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	
G.2.1. Please explain your answer -open reply-(optional)	
<b>H. SUSTAINABILITY</b>	
H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	No, the existing binding sustainability criteria are sufficient
H.1.1. Please explain -open reply-(optional)	
For timber/ wood and wooden biomass are the existing criteria by sustainabble forest manegemt suitable and sufficient. Traded timber/ wooden biomass will be prooved by the FLEGT-Regulations. Additional sustainability criterias will bring a burden for forest owners/ forest management and will interfare the target of the Strategy, which aims to promote and further developpe a framework and the implementation of renewable energy.	
<b>I. REGIONAL AND INTERNATIONAL DIMENSIONS</b>	
I.1. Do you consider current rules for cooperation between Member States sufficient	

<p>to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)</p>	

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-  
(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?  
-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.  
-open reply-(optional)

Mark Duchamp, European Platform Against Windfarms (EPAW),  
save.the.eagles@gmail.com

2. Are you responding to this questionnaire on behalf of /as:  
-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-  
(optional)

France

4. How would you prefer your contribution to be published on the Commission website, if at all?  
-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?  
-multiple choices reply-(optional)

No, targets for renewable energy sources are unnecessary

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

The Principle of Proportionality is binding in both the development of EU legislation and State Aid for environmental protection. To comply it has to be demonstrated (a) what greenhouse gas tonnages are to be reduced; (b) the cost basis for implementation and the alternative implementation strategies considered and (c) the environmental objectives involved, namely the environmental degradation which is to be avoided. Neither the NREAPs nor the EU's documentation for Directive 2009/28/EC demonstrate (a) or (b). Directive 2001/77/EC required by the end of 2005 a report which should: "Consider the progress made in reflecting the external costs of electricity produced from non-renewable energy sources and the impact of public support granted to electricity production". This cannot be found. In DG Clima's analysis in March 2010 of a possible initiative to step up beyond 20% greenhouse gas savings: "Explain how the options respect the proportionality principle? Climate change is a transboundary environmental problem. Achieving GHG reductions targets in the EU requires a balanced distribution of efforts between countries and sectors in order to ensure that the environmental objectives are met, but also the common market is not unduly hampered". Neither is there an answer to (C). Furthermore, the Commission has failed to

comply with the decision of the EU Ombudsman in Complaint 2587/2009/JF. The renewable programme is a breach of the most fundamental principle of EU law.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:  
-multiple choices reply-(optional)

Other (please specify)

Please specify which other policy elements? -open reply-(optional)

“The long-term perspective of investors” and the EU’s ambition to move towards a reduction of 80-95% of GHG emissions in a 2050 perspective is the focus of this consultation and resulting measures. The Lisbon Treaty is clear in that the “Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance. Each institution shall act within the limits of the powers conferred on it in the Treaties. The institutions of the Union shall apply the principle of proportionality”. Massive costs and environmental impacts are occurring and the Commission and the Member States have failed to demonstrate, how the renewable energy programme and the focus of this consultation, are in compliance with the terms of the Lisbon Treaty above. The citizen’s interest does not lie with a 95% reduction in GHG emissions and establishing a long term perspective for investors in technology sectors. Furthermore, there has been a complete failure to verify the emission savings and environmental performance of renewable installations installed to date and engineering analysis is clearly showing how ineffective intermittent generators, such as wind and solar, are in delivering reliable energy and effective environmental protection.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

No

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

ECJ judgement in case C-379/98 in relation to justifying state aid for wind generated renewable electricity was on the basis that it was “useful for protecting the environment in so far as it contributes to the reduction in emissions of greenhouse gases”. “It should be noted that that policy is also designed to protect the health and life of humans, animals and plants”. The Commission is aware it is subject to a Communication ACCC/C/2010/54 at the UNECE Aarhus Convention Compliance Committee in relation to the renewable energy programme in Ireland. This has demonstrated that the funding mechanisms are to ensure delivery of an EU obligation in relation to renewable energy and not part of a commitment, to contribute to any quantifiable environmental target related to quantified carbon dioxide savings. In approving this funding the EU failed to evaluate the environmental effectiveness of the programme or if the citizen’s rights with regard to public participation in decision making had been complied with. The inefficiencies on the grid induced by wind energy were known in advance, but ignored. Emission savings claimed for in the funding application have not occurred. Any further installation of wind energy will not lead to emissions savings, yet a quadrupling is required by the NREAP. A similar situation has occurred in other Member States. Aid schemes approved by the EU for renewable energy are not protecting the environment and saving fossil energy resources.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

B.4. Should the structure of financial support be

gradually aligned EU-wide? -single choice reply-  
(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

Other (please specify)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

The Lisbon Treaty requires that: "Decisions shall be taken as openly and as closely as possible to the citizen. The Commission shall carry out broad consultations with parties concerned in order to ensure that the Union's actions are coherent and transparent". The EU has ratified the United Nations Economic Commission for Europe's (UNECE) Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. A Strategic Environmental Assessment (SEA) is mandatory under Directive 2001/42/EC for all programmes leading to future development consent of wind farms and other renewable infrastructure. Communication ACCC/C/2010/54 at the Aarhus Convention Compliance Committee has shown that the Units Heads of DG Environment and DG Energy in June 2010 directed the Member States that no SEA was required for the NREAP if it did not include specific mandatory measures. Note: The renewable targets and the NREAPs are mandatory. The Compliance Committee have concluded that public participation was required for the NREAP and have formally requested: "Could you please explain why the Commission says that it is not responsible for the actions of the Member State in this case?" The Commission is acting without 'proper authority' in the manner in which it is implementing this programme, in that it has deliberately bypassed legally binding procedures related to environmental assessment and democratic accountability.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

The Commission has failed to comply with both the terms of the Lisbon Treaty above and its obligations under the Aarhus Convention with both the structure and the implementation of Directive 2009/28/EC. With regard to implementing a programme of this nature, Article 7 of the Convention is clear in requires that the public affected be provided with the necessary information, so that they can participate effectively during the preparation of the plan or programme within a transparent and fair framework, when all options are open and effective public participation can take place. EU legislation implements this through the more detailed process of Strategic Environmental Assessment. Furthermore the Commission's legal team in their opening statement to the Aarhus Convention Compliance Committee meeting on Communication ACCC/C/2010/54, in that in terms of the National Renewable Energy Action Plan, sated that the Irish public

were only entitled under the terms of the Convention to information on threats to the environment. They were not entitled to information on comparative costs or effectiveness of the renewable technologies. Under the Treaty of Lisbon, the citizen has a Right to good administration, a Right to effective remedy and to a fair trial and a Right to have damages made good. The Right to have damages made good applies to institutions and bodies of the EU and Member States when they are implementing Union law.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	None of the above
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

Europe's population has stabilised, while Europe's industry is more efficient, so electrical power consumption figures are stabilising. Yet to support a renewable programme with completely unknown figures related to environmental performance, impacts and financial costs, an enormous network development is to be initiated to facilitate unreliable and intermittent renewable generation, as regards the Republic of Ireland, a doubling of the high voltage grid by an extra 5,000 km. The EU Commission's 'Priority Interconnection Plan' COM (2006) 846 is very critical of 'time consuming public consultation procedures'. Yet this plan has an investment of €30 billion in infrastructure by the EU by 2013, with an estimated €700 – €800 million annually to be spent on connecting more renewable sources. In Com (2011) 658 on a proposal for regulation of a pan-European energy infrastructure, this states in relation to proportionality that the proposal does not go beyond what is necessary to achieve the objectives perused. This is not correct, the renewable programme has by-passed both proper environmental, technical and financial assessment and legally binding measures related to public participation. It is certainly not proportionate in terms of achieving demonstrated environmental protection objectives. Now the citizen is expected to carry the burden of this grid expansion, with massive and unnecessary financial and environmental impacts.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other rules -open reply-(optional)

Both the internal and external costs associated with any grid expansion to facilitate renewable energy need to be assessed and compared with the 'do nothing scenario', given that the existing grid functions without any of this development. With regards to the EU's binding climate change and renewable energy targets, it is necessary to point out Principle 10 of the United Nation's Rio Declaration, namely; "Environmental issues are best handled with participation of all concerned citizens, at the relevant level". These binding targets were decided solely on political considerations, in which there was neither any environmental assessment nor public participation with concerned citizens. These massive grid expansions to facilitate intermittent renewable generation are being forced upon a population, who have neither been informed nor provided with an opportunity to participate in these key decisions. Clearly renewable energy should only be provided with access to the grid, when it demonstrates that it is superior and more effective than current generation capacity. At no stage have the necessary assessments in this regard been completed to justify the preferential treatment provided to such generation. Indeed, ever indication is that the renewable energy being promoted solely for political reasons is not providing any significant environmental benefits, which anyhow could have been achieved with far lower cost and environmental impacts by other means.

D.2.1. Please explain why -open reply-(optional)

As regards grid related rules there is already a huge backlash developing from the general public as more and more grid expansions are developed to facilitate intermittent and ineffective renewable generation, such as wind energy. As the Commission is aware from Communication ACCC/C/2010/54 it approved €110 million in funding for the Ireland to UK electrical connector, even though the sole purpose of this project was to facilitate more wind energy on the Irish grid, a policy, which had by-passed the legally required public participation. In relation to the EU's European Investment Bank, this has supplied €300 million in loans to the interconnector project and a further €235 million to the State owned ESB to develop further networks to facilitate wind energy in Ireland. All related to a programme which has by-passed legally required public participation procedures. Now the citizen is expected to pay back this money for infrastructure, which is not need and for which he was provided with no proper environmental information or the opportunity to participate in the decision-making. Given that Europe is already heavily indebt it is simply unacceptable that such practices should be occurring

driven by EU Institutions, which have deliberately by-passed the legally binding rules which are applicable to them. Proper accountability and adherence to democratic procedures is not optional with regard to grid development.

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

The integration of solar power in Germany has caused a huge financial burden to be placed on the citizen for no real environmental benefit. Now in 2012 an estimated €100 billion subvention cost for what only delivers 3% of Germany's electricity supply in a highly irregular and ineffective manner. Indeed the development of renewable electricity in German has essentially doubled generation costs. Indeed all countries, which have undergone renewable expansions, are seeing massive cost rises for the consumer coupled with a failure to demonstrate any significant decrease in fuel usage or emissions. Once again this clearly demonstrates the failure to assess this policy before implementation and the manner in which the input from the technical sector has been deliberately ignored. Europe's industry cannot remain competitive given these massive costs, which are seemingly now to be raised even further with dysfunctional and ineffective system integration costs for renewable power inputs, which have no demonstrated or legal reason to be there in the first place.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

The uptake of renewables in heating and cooling is being driven, both at EU and Member State level by policies, which have not been properly assessed and whose implementation is related to political expediency and not environmental protection. Indeed the promotion of wood biomass for domestic heating is not only leading to the destruction of natural wood resources, but as the moisture content of such fuel, particular in Northern Europe, is high; it is leading to increased particulate emissions and urban pollution. As regards the renewable Directive, the external costs of existing heating and cooling arrangements are unknown, yet we are to subsidise renewables for which no external cost assessment is available. This type of policy will only lead to unsustainable businesses, which are totally dependent on subsidy bubbles to survive and have little or no viable long term future. The Common Agriculture Policy had its inception in such rash political based decision making, in which market based economics was replaced by a political structure. This agricultural policy resulted in an enormous cost burden for the European citizen and lead to practices, which were unsustainable from both a financial and environmental perspective. Clearly it can be seen that the EU has not learnt anything from this debacle and is now rapidly implementing politically agreed targets, which have by-passed legally required assessment and public participation requirements.

F.2. What pathways do you consider to be the

Other (please specify)

most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Please specify which other pathways -open reply-(optional)

The completely counter productive nature of the EU's energy policies can be seen in the manner in which wood biomass in domestic heating is being promoted, with all its associated environmental impacts, particularly the significant impact on human health, while the most environmentally effective form of renewable heat, that of electrically driven heat pumps, is being put out of business by soaring electricity costs. Yet at no stage was this considered in a proper assessment as part of policy development. As Der Spiegel reported in March 2011 in relation to German's Eco-Trap: "Not everything that looks green serves the environment. The ecological principle of proceeding with care doesn't seem to apply to environmental policy. The more, the better, seems to be the principle. No one is calculating whether all the billions being invested in protecting the environment are actually being spent wisely. Ordinary citizens can't judge it and many experts have no interest in shedding any light on this aspect because their livelihoods are at stake. A large amount of money flows into studies, risk assessments and providing seals of approval. In many cases, a closer look at environmental measures reveals that they're expensive and don't have much effect".

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

It is likely that global energy prices will rise in line with both population increase and a general improvement in living standards. Market forces will then dictate that consumers will use energy more efficiently. However, what the EU is proposing is a massive intrusion on the Citizen's rights, in that he should be denied access to certain energy sources and forced to use other highly ineffective sources, on the basis of political decisions, which have by-passed proper assessment and legally binding public participation procedures. In particular given that the EU has completely failed to assess and quantify the external costs of carbon dioxide emissions, it has no legal right to restrict the citizen's access to such fuels and introduce massive financial support programmes for those, which may well carry the tag renewable, but in reality do not deliver any environmental benefits, which could not have been achieved at a fraction of the cost by a rational and science based evaluation. While energy efficiency and environmental protection in the heating and sector should be promoted, this should be based strictly on the principles of the Lisbon treaty, namely a highly competitive social market economy and a high level of protection and an improvement in the quality of the environment. The current promotion of renewable energy does not fulfil those requirements.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Other (please specify)

Please specify which other barriers -open reply-(optional)

With regard to the 10% target for transport fuel, this was a completely political target bereft of any environmental assessment. Indeed the April 2007 consultation by the Commission was simply a 'Vox Pop' based on four questions: "How should a biofuel sustainability system be designed? How should overall effects on land use be monitored? How should the use of second-generation biofuels be encouraged? What further action is needed to make it possible to achieve a 10% biofuel share?" This does not fulfil the legal requirements in relation to public participation in decision making. The current situation is that the introduction of E10 biofuel into Germany has been a complete disaster. The Commission is also well aware in that it has been sued, accused of violating European transparency laws. Client Earth, Friends of the Earth Europe, Fern and Corporate Europe Observatory filed a lawsuit following the Commission's refusal to provide access to information in decisions related to the sustainability of Europe's Biofuels policy. The 10% target should therefore be reviewed and subject to the proper technical, environmental and financial assessment, in conjunction with proper public participation, which was mandatory for such a biofuel programme in the first place.

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Rail

G.2.1. Please explain your answer -open reply-(optional)

Many European rail networks are electrified and in a number of Member States, particularly Germany, rail costs are soaring as electrical

generation costs have effectively doubled due to renewable energy inputs, which are massively ineffective in terms of environmental protection. This is in effect making what is an extremely effective form of transportation, particularly for social groups who would not have ready access to a car, uncompetitive. Yet clearly this impact has never been assessed and quantified in the development of these policies, in which to quote Mark Twain, it is being driven by an administrative structure where; "people's beliefs and convictions are in almost every case gotten at second-hand, and without examination, from authorities who have not themselves examined the questions at issue but have taken them at second-hand from other non-examiners, whose opinions about them were not worth a brass farthing". One can only wonder, if people who have been placed in a position of responsibility of development of Europe's energy policy, even attempt to understand the impacts of these policies, as certainly there is no documented evidence to demonstrate they do.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

No, the existing criteria are already burdensome to implement

H.1.1. Please explain -open reply-(optional)

The sums of money which have been made available by Europe's biofuel policies are colossal, and are only matched by the potential for environmental devastation. With a rising global population, which in many cases can't feed itself, to divert food grade products into fuel tanks, when other options are available, is simply obscene. Furthermore, Biofuels have not provided the environmental benefits which were claimed for them, to which must be added the fact again that there was no proper environmental assessment of the policy before it was introduced. This policy should be stopped before it does more damage both in Europe and elsewhere.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

As already answered in Section D, existing grid networks are perfectly adequate for today's and future needs. They may need replacement in relation to the age of the components, but they do not need to be expanded.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

In relation to COM (2011) 539 on "The EU Energy Policy: Engaging with partners beyond our borders" and the Mediterranean Solar Plan,

this plan is widely speculative, particularly given the complete failure of solar power to deliver either cost effective or reliable electricity. Europe is already collapsing under a burden of financial debt and it is appalling to see that the EU Commission wants to increase this burden based on speculative and ill conceived projects in neighbouring countries. Spain has already had to slash its completely overgenerous solar subsidies and Germany simply cannot continue to support solar development any more, not to mention the fact that neither the citizen nor the environment benefited from these colossal expenditures. Yet again the Commission is solely creating a 'bubble economy' for equipment suppliers.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

In a similar manner offshore wind is a technology sector associated with massive costs (€4.3 million per MW installed) for an unreliable electricity supply, which in turn has massive environmental impacts, in particular associated with grid expansions. It is particularly distressing that the EU Commission cannot produce any objective documentation to support this technology sector. With regard to the Communication ACCC/C/2010/54 and Ombudsman Complaint 2587/2009/JF, on the 3rd Feb 2011 on the Irish State Broadcaster the EU Commissioner for Climate Action Connie Hedegaard stated in relation to offshore wind: "It actually pays off, it is sound economics". When a formal reply for the supporting technical information was received, no background documentation was connected to the request; "as the Commissioner's statement did not refer to any particular project or development, nor was it based on any one or particular piece of documentation but on publicly available information and her general experience, knowledge and political views". The only document being available coming from the European Environment Agency on "Europe's onshore and offshore wind energy potential". This in turn quotes the European Wind Energy Association as its technical source. This is simply unacceptable.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Other (please specify)

Please specify which other key challenges

-open reply-(optional)

There has to be some very serious questions asked about the sums of taxpayers now being diverted into renewable energy research, in particular as there has been a complete lack of data made available as to the environmental effectiveness of this sector, despite it being a legal obligation to possess and update such environmental data. With regard to the Intelligent Energy Europe programme, both projects funded by the EU Commission in relation to wind energy, "Wind Energy - The Facts" and "GP Wind", contain blatantly incorrect claims about the emissions and fuel savings for this intermittent source, in which the inefficiencies induced on the grid are ignored. Under Regulation 1367/2000, which imposes the requirements of the Aarhus Convention on Institutions of the EU, the EU Commission is refusing to confirm how it complies with its legal requirement in relation to the two programmes in that it shall, insofar as is within its power, ensure that any information that is compiled by it, or on its behalf, is up-to-date, accurate and comparable. In particular with regard to "Wind Energy – The Facts", the EU contributed 50% of the €773,662 used by the European Wind Energy Association to run a dissemination campaign. Yet at no stage has an independent and transparent technical analysis ever been completed of the EU's colossal support for wind energy and its effectiveness.

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

The Treaty of Lisbon is clear, in that the Union "shall promote scientific and technological advance". Wind, solar photovoltaic and

biofuels, which are cornerstones of the mission of the SET plan have not to date, and there are absolutely no indicators that that they will in the future, provided a reliable, cost effective and environmentally effective source of energy. They are not therefore connected with any scientific and technological advance. Neither is there transparency in the manner in which the SET plan is being implemented. Not only is there a complete failure to assess the environmental effectiveness of the above technologies, which are the only justification for their financial support framework, but as regards wind energy, the output is dominated by the European Wind Energy Association, instead of the critically required independent and transparent technical analysis of this sector, which is being provided with colossal support at the citizen's expense. Clearly there is every indication that the EU Commission providing funding for sectors in a manner which is not transparent and which is detrimental to the requirements of the Lisbon Treaty, to promote "a highly competitive social market economy, aiming at full employment and social progress".

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

The EU Commission needs to comply with its legal requirement under the Aarhus Convention to possess and update environmental information, which is relevant to its function. Note: Environmental information includes not only information on emissions and impact, but also cost benefit and other economic analysis. To date the Commission has failed, despite a legal requirement to do so, to both assess the renewable energy it is so actively supports and determine the external impacts of non-renewable sources. As it wrote in reply to UNECE in Communication ACCC/C/2010/54, "it is generally recognised that renewable energy, and wind energy in particular, is preferential from an environmental point of view to non-renewable energy". Its position is therefore based on 'public opinion' and not demonstrated legal compliance. While the Polluter Pays Principle allows external costs to be internalised, this must be based on a transparent and factual analysis, which to date has been bypassed. Energy policy going forward must be based on evidence-based assessment rather than as SEC(2008) 85/3 of January 2008 stated, "In the opening months of 2007, the European Union stepped up its energy and climate change ambitions to new levels. The Commission put forward an integrated package of proposals calling for a quantum leap in the EU's commitment to change. A political consensus grew up in support of this approach".

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

The answer to this question has been clearly covered in the replies above. The EU has implemented a massive renewables programme, putting mandatory targets on Member States, a colossal financial burden on the citizen and huge unwarranted environmental impacts on the landscape and biodiversity of Europe. At every stage of the process legally binding procedures related to assessment and public participation were bypassed. The EU must now recognise the complete ineffectiveness of the programme and bring it to a halt, or it can see this happen through the inevitable circumstances in which it is challenged in the European Courts and forced to ensure damages are made good. Currently it is clear that the only defence it has been providing in relation to non-compliance with procedures related to assessment and public participation, is that it is exempt as it is on a mission to "save the world". Yet none of the policies it has been implementing to date has helped with that objective, on the contrary.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Holding Slovenske elektrarne d.o.o., sasa.podlogar-znidarsic@hse.si

2. Are you responding to this questionnaire on behalf of /as:

Industry

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Slovenia
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	We have to address the post 2020 period with a combination of EU, sectoral and country-specific targets. The 20/20/20 targets are ambitious and will prove hard to achieve on several levels, but nevertheless determine the necessary path. The same approach should be taken for post 2020 era.
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	Yes
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Open up national support schemes to cross-border projects
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with benchmark values for support level per technology per Member State
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	No
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity,	

heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States need to open their support schemes to renewable generation from other Member States

Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, all support schemes distort competition to a similar extent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-(optional)

Length and complexity of administrative procedures relating to authorisation/certification/licensing

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

The complexity and length of administrative procedures is the main obstacle to significant (and necessary) growth of renewables in our country.

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-(optional)

Grid connection rules - Cost-sharing rules - Balancing rules

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

Obligation for network operator to develop network - Priority or guaranteed access

-multiple choices reply-(optional)	
D.2.1. Please explain why -open reply-(optional)	
D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Increased availability of storage
<b>E. MARKET INTEGRATION</b>	
E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid
E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Dedicated arrangements to reward availability of generation capacity
E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	The current wholesale market model based on short-run marginal cost pricing would have to be supplemented by instruments incentivising investment in generation capacities with a high capex/opex ratio (please specify which)
Please specify which instruments incentivising investment -open reply-(optional)	
<b>F. RENEWABLES IN HEATING AND COOLING</b>	
F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Costs/lack of financial support
F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Biomass - Solar thermal - Electrification together with higher share of renewables in electricity production
F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)	
<b>G. RENEWABLES IN TRANSPORT</b>	
G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Pace of technology development - Lack of infrastructure
G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices	Road for passengers

reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?

-multiple choices reply-(optional)

No, the existing binding sustainability criteria are sufficient

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?

-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added

-open reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

First priority should be the candidates, potential candidates and other neighbouring countries within the European Neighbourhood Policy framework.

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-

(optional)

No (explain why)

Please explain why -open reply-(optional)

Priorities should be set according to the needs of the EU-wide network as a whole.

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?

-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the

rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Partners for Euro-African Green Energy (PANGEA) ; victoria@pangealink.org

2. Are you responding to this questionnaire on behalf of /as:

NGO

-single choice reply-(optional)	
3. Please indicate your country -single choice reply-(optional)	Belgium
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a combination of EU and sectoral level targets is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	It is important to maintain momentum post 2020 if climate change is to be mitigated and optimal energy efficiency is to be achieved. Furthermore, through a continual effort to promote the use of renewables, investors will be confident of a stable future market, leading to job creation, especially in rural areas in Europe and in developing economies such as those in sub-Saharan Africa that rely on agriculture. To achieve this, the EU must continue to impose new targets, so as to encourage a continued effort by all. Biofuels and biomass are certain to be an important source of renewable energy. The production of such renewables as these is likely to increase post 2020, but the rewards will only be reaped if they are produced in a sustainable way. It is therefore important to keep guidelines in place regarding levels of green house gas emissions and sustainability criteria. Biofuels and biomass are a very effective source of renewable energy that has a valuable place in society providing they are produced responsibly. However, when it comes to imported biomass and biofuels, the EC should take into consideration that its standards might not be economically or technically feasible for many developing countries with abundant arable land and should therefore work with them to ensure there is market inclusion so that the benefits of value added agricultural processing such as liquid and solid biofuels can reach producers.
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Better financing possibilities - Continue to ensure sustainability and scalability
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
It is likely that financial support will continue to be needed to support renewables post 2020 despite the expected increase in their penetration. Research and development will continue to be an important feature post 2020, with a continued need for improved efficiency and greener sources of energy. Implementation of those new technologies will require continued support to make sure they get to market. In order to continue to meet targets and make a real impact on battling climate change, a wider array of technology is vital. Biofuels and biomass will likely remain a main source of renewable energy, which need to be cultivated in such a way so as to avoid negative environmental consequences associated with indirect land use change or risk food security. It is important that there are	

continued financial support and market mechanisms for biofuel producers to encourage ILUC avoiding and ILUC mitigating biofuels. The EC should also focus on more and better financing for bioenergy production in developing countries as they have enormous production potential; producing more sustainable bioenergy in developing countries would help both Europe and them to have better access to renewable energy while also strengthening food security and rural economies at the same time.

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-  
(optional)

Making support schemes more market-oriented (please specify how) - Open up national support schemes to cross-border projects

Please specify how to make support schemes more market-oriented -open reply-(optional)

Implementation of an incentive based scheme could encourage activities which prevent or reduce the risks of ILUC occurring throughout the biofuel production process. The Renewable Energy Directive already provides carbon credits for biofuels produced from feedstocks grown on severely degraded or contaminated lands; this could be extended to the similar provision of a carbon credit to biofuels produced in such a way that they meet certain ILUC mitigation criteria. Such criteria could include amongst other things yield improvements and the use of wastes as feedstock for biofuel products. Through this scheme, biofuels produced from practices that mitigate or prevent ILUC would be more valuable to fuel suppliers than those that don't -as the fuel suppliers would need a smaller volume to meet mandatory GHG reduction targets. This would in turn create an incentive for biofuel producers to adopt ILUC mitigation practices in order that they could benefit from higher prices offered by fuel suppliers for biofuels that meet the criterion for the ILUC mitigation credit.

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

Yes, with benchmark values for support level per technology per Member State

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-  
(optional)

N/A

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-  
(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Please specify which support schemes you consider most distorting -open reply-(optional)

National support schemes for technologies that are readily available throughout the EU are likely to cause greater distortion of competition than those technologies which are only available in certain countries due to limited resources. Energy technologies derived from sources such as wind and solar, common to all Member States might be prone to greater competition distortion from national support schemes and to avoid this, a benchmark for various technologies should be provided. Technologies based on sources such as wave energy or biofuels and biomass will still suffer from competition distortion as a result of national support schemes, but to a lesser extent as not all countries will have a market for such technologies.

## C. ADMINISTRATIVE PROCEDURES

<p>C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)</p>	<p>Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications</p>
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Complex administrative procedures delay production from any technology. Authorisation, certification and licensing are administrative hurdles that are problematic for producers in the current economic climate. The directive allows Member States to decide proportionate and necessary procedures for authorisation, certification and licensing, leaving an element of subjectivity. But prudent facilitation of these procedures would allow for greater growth of renewables following the implementation of the provisions of the Directive. A lack of commonly agreed technical specifications can be detrimental to growth as it inhibits trading between Member States. Without inter Member State trade working freely and without consumer confidence resulting from agreed technical specifications economic growth in the area of renewables is likely to be marginal. There are still certain definitions within the RED that have not yet been developed, such as 'degraded land' and 'biodiverse grasslands' whose lack of definition may postpone investment in certain regions until those are clarified. Lastly, the EC's decision to not monitor compliance with biofuel sustainability criteria itself but rather to leave the burden to various sustainability schemes, which are invariably complex and expensive for less sophisticated producers in developing countries, creates not only an unnecessary burden for those producers but also a very high barrier to market entry that is itself a non-tariff trade barrier.

<p>C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)</p>	<p>Other (please specify)</p>
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Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

Introduce post-haste viable, workable and internationally recognisable definitions for those lacking in the RED. Create opportunities to help producers in developing countries to access sustainability certification, including resources for training and auditing.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

<p>D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)</p>	
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

<p>D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)</p>	
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D.2.1. Please explain why -open reply-(optional)

<p>D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the</p>	<p>Increase availability of demand response (smart grids ...) - Increased availability of storage</p>
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flexibility reserve of the system: -multiple choices  
reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Producers of renewable energy should continue to be treated separately (no exposure to conventional market)

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Lack of suitable information

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Electrification together with higher share of renewables in electricity production

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of infrastructure - Lack of awareness - Lack of suitable information - Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Air

G.2.1. Please explain your answer -open reply-(optional)

Motor vehicles are the largest net contributor to global warming of all the transport systems, so it seems logical that they would be the most promising area of focus for further increasing the share of renewable energy. Furthermore, road vehicles tend to be replaced more often than trains, planes and boats, so the introduction of new vehicles fuelled increasingly by renewable energy would create a large and rapid impact on the share of renewable energy in use. Public awareness of the benefits of renewables would need to be increased, as would the provision of incentives for the use of renewables to encourage the general public and companies transporting goods via road networks to invest in vehicles fuelled by renewables. Public transport companies already have shown a great interest in running cleaner vehicles and should be rewarded for doing so. Air transport is also responsible for a large amount of the GHG emissions. Many

commercial airlines have already shown a willingness to increase the use of renewable fuels, with some already using biofuels. Again, incentives should be provided for them to continue with renewables as to increase the use of renewables in the air industry would have a large impact on the share of renewable energy being used for transport purposes.

## H. SUSTAINABILITY

<p>H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)</p>	<p>Yes, sustainability criteria should apply to both all biomass and fossil fuels</p>
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H.1.1. Please explain -open reply-(optional)

As renewable energy increasingly penetrates the EU, there will be a greater demand for biomass. As the number of producers of biomass increases, there is a greater chance that whilst competing with one another they become less stringent and the quality of the biomass declines. It is therefore very important that strict sustainability criteria are in place to ensure that the biomass is correctly sourced. As technology advances, and more is known about sustainable production, it is likely that additional criteria will need to be implemented. It is equally important that sustainability criteria are implemented for fossil fuels as we become less reliant on them, we can be increasingly prudent about its source and ensure that it is as sustainably produced possible.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>Yes</p>
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

Third countries have untapped potential regarding renewables, particularly Africa and South America. Africa has land in abundance and a favourable climate for biofuel cultivation. Many Member States are struggling to find areas of land vast enough for biofuel production. Given the potential of biofuels as an energy source, it is important that cooperation with third countries is facilitated. Member States could offer financial support and guidance in the cultivation of renewables and in return they could have an agreement where excess biofuels could be transported to the Member States -increasing the use of renewables both in the third country and in the Member States. To achieve this, clear policies would need to be set out by the EU to ensure biofuel production would not result in locals losing out. Land for growing biofuels must be obtained through a fair and lawful procedure, with adequate compensation mechanisms in place for those losing out as a result of the project. The country in which cultivation is taking place must be assured that they would be given ample access to the renewable energy and provided with training and infrastructure that would facility local use of the production so that there are sufficient incentives for them to support the project. Sustainability criteria developed under the RED already ensure that biofuels coming into Europe from third countries meet environmental criteria, while most sustainability schemes also include social criteria.

<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Other measures (please specify)</p>

Please specify which other measures -open reply-(optional)

Additional financial resources should be available for biofuels produced in third countries to help ensure sufficient supply for local

populations as well as export to Europe. Incentives should exist for feasibility studies through to commercial project implementation, as well as assistance with technology and skills transfer, training including agricultural production, and policy training to ensure implementation of the regulations required to create local biofuels markets.

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

This would supplement the EU internal renewables policy, indicating the importance of sourcing renewable energy elsewhere. The EU Member States do not have the resources to meet their targets alone, and would greatly benefit from such a partnership. The partnership should focus on the facilitation of coordination between the EU and the Southern Mediterranean countries, because without coordination, the partnership will have little value. A successful EU-Mediterranean partnership can be used as an example of what is possible, and will help the EU to gain experience in such partnerships. The knowledge gained from such a partnership can then be used to form partnerships further afield such as with Sub-Saharan Africa. Already the Africa Europe Energy Partnership exists but a lot more needs to be done to take it from discussion to implementation.

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

This experience could be used in the formation of future partnerships and cooperation outside of the EU. If it can be seen that regional cooperation and coordination can be achieved, and that one region's assets can be shared with another region successfully, then such a strategic approach can be replicated and applied to other technologies in other regions.

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness - System integration - Industrial manufacturing and supply chain

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Much more support needs to be lent towards demonstration and pilot projects for new technologies not only as proof of concept but also in order to further refine technologies so that they are ready for large-scale investment and implementation.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Oceana represented by Nicolas Fournier. E-mails: brussels@oceana.org  
Nicolas.fournier@oceana.org

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply-(optional)

Belgium

4. How would you prefer your contribution to be published on the Commission website, if at all?

-single choice reply-(optional)

Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)

## A. GENERAL POLICY APPROACH

A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy?

-multiple choices reply-(optional)

Yes, a mandatory target at EU level is appropriate

A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)

Mandatory goals at the EU level are necessary in order to give a clear policy framework for renewable energies that can be operationalized at Member States' level. Moreover, mandatory targets give a possibility to assess Member States' progress on the matter. The massive investment in renewable energies is crucial to achieve a sustainable development and to diminish Europe's dependence on fossil fuel energy sources. In particular, Oceana supports a more extensive use of marine renewable energies, including offshore wind, since it is probably the most the most environmentally friendly form of renewable energy (minuscule impacts on marine life) with a very promising potential that could additionally generates thousands of jobs.

A.2. Are other policy elements necessary to promote renewable energy post-2020, such as:

-multiple choices reply-(optional)

Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Continue to ensure sustainability and scalability

<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	Yes
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Making support schemes more market-oriented (please specify how) - Accelerate convergence of national support schemes - Open up national support schemes to cross-border projects
Please specify how to make support schemes more market-oriented -open reply-(optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology
B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)	
The structure of financial support should be gradually aligned EU-wide. In particular, this would enable comparability of data and performances between the different sources of energy and Member States. In addition, an assessment of their cost-effectiveness would be possible. Finally this would bring in more transparency on the sector, enable public disclosure of information.	
B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)	
B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States
Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other) -open reply-(optional)	
B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
<b>C. ADMINISTRATIVE PROCEDURES</b>	
C.1. Which of the following issues relating to administrative procedures, information and	Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of information on

training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	support schemes or other - Lack of credible and certified training and qualification
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C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Curtailment regime
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D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? -multiple choices reply-(optional)	Priority or guaranteed access - Priority dispatch and obligation on TSO to counteract curtailment
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D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)	Increase flexible back-up capacity (capacity payments ...) - Increase availability of demand response (smart grids ...) - Accelerate infrastructure development and interconnection - Market-based measures: better use of interconnectors (implicit auctions), trading closer to real time - Increased availability of storage
--	--

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)	Producers of renewable energy should continue to be treated separately (no exposure to conventional market)
---	---

E.2. How can it be ensured that market arrangements reward flexibility? -multiple choices reply-(optional)	Favourable regulatory treatment of storage operators - Develop demand response to market signals (please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand)
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Develop demand response to market signals : please specify, e.g. smart grids, smart meters, demand aggregation, interruptible demand

-open reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

Wholesale markets would have to move to reflecting full costs

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Building regulations etc. - Lack of public support

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Biomass - Geothermal - Solar thermal

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

The introduction of insulation requirement for buildings would be very helpful.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Costs - Pace of technology development - Lack of standards - Lack of infrastructure

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

Road for passengers - Road for goods - Rail

G.2.1. Please explain your answer -open reply-(optional)

With regards to passenger road transport, Oceana believes that electric cars provide a solution in combating climate change, under the conditions that they would be powered by electricity produced from renewable energies. The current electric car market is limited, but its potential is huge, and harnessing it will require political support.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

Oceana's believes that the biofuels issues is very complex, as several generations of biofuels exists, some of them being wrongly considered a sustainable. According to us, biofuels can threaten biodiversity; the can negatively contribute to climate change (land use change) and thirdly can be a direct competitor to food production. Therefore we recommend strengthening the sustainability criteria in place, to include all types of biofuels and biomass sources.

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

<p>I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)</p>	<p>No (please specify how they should be amended or which elements added)</p>
<p>Please specify how they should be amended or which elements added -open reply-(optional)</p>	
<p>I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	<p>Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)</p>
<p>Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)</p>	
<p>Oceana believes that cooperation with non EU-countries should be further promoted e.g. by extending cooperation schemes with North-Africa and South-East Europe. Indeed, countries that belong to such areas are very promising especially for the production of solar energies.</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>Yes (explain in which way and to which degree)</p>
<p>Please explain in which way and to which degree -open reply-(optional)</p>	
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>Agreements between the EU and third countries</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>The priorities should be sustainable development and the knowledge transfer in R&amp;D to those countries. Special attention should be put on electricity that comes from solar powerplants and from marine renewable sources of energy (e.g. offshore wind energy).</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>Oceana maintains that cooperation should definitely be encouraged within the framework on the North Sea Offshore Grid Initiative. This experience should also be replicated in the Mediterranean, in the Atlantic and in the Baltic areas.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of</p>	<p>System integration</p>

renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

Measures that should be developed to enhance technology development are green public procurement, public support by national plans and programs to raise public awareness to increase new technologies' acceptance.

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

Oceana believes that the technology that should be given priority in the post-2020 perspective is wind energy. It is a very promising technology and sector that has minimal environmental impacts and a massive growth potential together with scalability. Given its benefits compared to other polluting or controversial energy sources (e.g. fossil fuel, biofuels) it should be further encouraged. In addition other marine renewable energy sources such as tidal, currents, thermal and wave should be all be explored and given the due attention in the post-2020 Strategy.

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

Oceana believes that existing measures are going in the right direction but that more ambitious rules must be implemented to accelerate the transition towards a carbon-free society. Member States must be encouraged by ambitious legally binding targets that support an increase of renewable energy in their energy mix. A major drawback in the existing measures is the inclusion of non-sustainable sources of energy, such as biofuels, under the designation of renewable energies.

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

Oceana's position is that assistance in technology development for renewable energies are based on long term benefits, that won't necessarily pay off immediately. We are of the opinion that they should be considered as investment for the future. These investments in renewable energies are much needed to provide realist alternatives to the overexploitation of non-renewable energy (e.g. fossil fuels). As a result, Oceana support assistance for technology development and believes it should not be directly result-oriented or linked to any fixed deadline. In some cases, very promising renewable energies, such as marine energy, may not give immediate results in the short run, but will eventually take off and deliver more broadly than the expected environmental benefits. Ultimately, Oceana support public support for renewable energies as a needed boost for these sectors to mature; especially at a time when standard fossil-fuel or nuclear energy sources benefit from massive indirect subsidies.

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

Harald Ganster, W. Hamburger GmbH; GF

-open reply-(optional)	
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	Industry
3. Please indicate your country -single choice reply-(optional)	Austria
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	Yes
B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)	Phase out support schemes over time (please specify for which technologies if applicable)
Please specify for which technologies (if applicable) to phase out support schemes over time -open reply-(optional)	
B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with EU-wide benchmark values for support level per technology

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply- (optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

We need definitely the same subsidies (systems) in all countries to avoid competitive disadvantages.

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply- (optional)	Member States should open their support schemes to renewable generation from third countries
--	--

Please explain how it could be achieved for third countries -open reply-(optional)

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	Yes, all support schemes distort competition to a similar extent
--	--

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional)	
--	--

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

C.2. Which policy response to the problems identified above do you consider appropriate? -single choice reply-(optional)	Push for more standardisation and harmonisation on EU level or mutual recognition
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## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply- (optional)	Grid connection rules
--	-----------------------

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

our produced electricity in the industry shouldn't need a separate connection to the grid in case the consume this produced electricity.

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Lack of suitable information

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

Limits of availability of sustainably produced biofuels

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period?  
-multiple choices reply-(optional)

Yes, sustainability criteria should apply to both all biomass and fossil fuels

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU?  
-single choice reply-(optional)

No (please specify how they should be amended or which elements added)

Please specify how they should be amended or which elements added  
-open reply-(optional)

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)

Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)

Please specify how and with whom, i.e. only neighbouring countries or more widely -open reply-(optional)

I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)

No (explain why)

Please explain why -open reply-(optional)

market distortion

I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?  
-single choice reply-(optional)

Agreements between the EU and third countries

I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)

I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What

benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)

## J. TECHNOLOGY DEVELOPMENT

J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

-multiple choices reply-(optional)

Technology performance and cost-competitiveness

J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)

J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

-open reply-(optional)

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Successful but some drawbacks (please specify which)

Please specify which drawbacks -open reply-(optional)

different financial support in different countries

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

## IDENTIFICATION

1. Please enter your **name** and, where relevant, the **name of the organisation** you represent. Please include also an **e-mail** address for contact purposes for use only if we need clarification about your responses.

-open reply-(optional)

Doina CUCUETEANU - Romanian Geoexchange Society -  
doinacucueteanu@gmail.com

2. Are you responding to this questionnaire on behalf of /as:

-single choice reply-(optional)

NGO

3. Please indicate your country -single choice reply- (optional)	Romania
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	Yes, a mandatory target at EU level is appropriate
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Pentru impulsionearea si cuantificarea contributiilor individuale ale statelor membre; Pentru stabilirea obiectivelor concrete de cercetare / dezvoltare ale diferitelor tehnologii RES; Pentru mobilizarea generala de la nivel macro si pana la cel al fiecarui cetatean european;	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Enhanced focus on R&D to bring down the costs of renewables technologies - Facilitation policies (faster and easier permitting, improved access to the grid and further grid investments, availability of more sites for renewables, etc) - Abolition of support mechanism or subsidies to other energy sources - Public procurement obligations in support of renewables - Better financing possibilities - Continue to ensure sustainability and scalability - Other (please specify)
Please specify which other policy elements? -open reply-(optional)	
Penalitati pentru tehnologii / produse / servicii consumatoare de resurse fosile sau poluatoare; Focalizare pe educarea decidentilor din autoritatile nationale / regionale / locale in intelegerea rolului lor; Focalizarea pe informarea utilizatorilor; Obligativitatea includerii in legislatia nationala a fiecarui stat membru a calculului "Life Cycle Cost" in studiile de fezabilitate (altminteri solutiile RES fiind dezavantajate) Focalizarea in tarile mai slab dezvoltate economic (ex. Romania) pe Energia Termica (60% din consumul national, fata de 40% media europeana)	
<b>B. FINANCIAL SUPPORT</b>	
B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)	For selected technologies/circumstances/markets (please specify)
Please specify which technologies/circumstances/markets -open reply-(optional)	
Sistemele de incalzire - racire cu pompe de caldura geotermale pot fi implementate oriunde in Europa, ele nedepinzand de factori externi (soare, vant, apa de suprafata). Deoarece (a) investitia initiala e mai costisitoare si (b) cunoasterea lor e mai redusa, solutia H&C GSHP trebuie incurajata in mod prioritar tocmai pentru "Life Cycle Cost" mai redus decat in cazul oricarei alte tehnologii RES si fiindca exista potential enorm in viitor de dezvoltare tehnica si stiintifica.	
B.2. If renewable energy sources require	Accelerate convergence of national support schemes - Phase out

support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply- (optional)	support schemes over time (please specify for which technologies if applicable)
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Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Mentinerea schemei suport in timp, proportional cu cantitatea de energie primara extrasa din RES (criteriu valabil pentru toate energiile RES)

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)	Yes, with benchmark values for support level per technology per Member State
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B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)	Yes (please explain how this could be achieved and which support structure you consider most suitable)
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Please explain how this could be achieved and which support structure you consider most suitable -open reply-(optional)

In Romania, sistemele H&C GSHP nu sunt sustinute de guvern pe masura potentialului lor real datorita necunoasterii la nivelul decidentilor, asa ca o schema de sustinere general-aplicata la nivel european, ar obliga autoritatile romane sa se informeze / inteleaga / aplice aceasta tehnologie.

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

La nivelul mediei europene, consumul pentru incalzire - racire este de 40% din totalul consumului de energie. In Romania ponderea H&C este de 60%. Datorita responsabilitatilor extrem de dispersate (intre ministere, autoritati locale, agentii etc.), domeniul energiei termice ramane "copilul nimanui" in situatia in care autoritatile se concentreaza exclusiv pe energia electrica (EE) / energie electrica din RES / subventii pentru EE din RES / certificate verzi pentru EE etc. Inclusiv in Planul National de Actiune pentru Energie Regenerabila 2020 / NREAP, energia termica este tratata ca o "cenusareasa", iar solutiile (atatea cate sunt) se focalizeaza pe sursele "bio", adica (mai mult sau mai putin, de fapt, in majoritate) pe arderea padurilor si deseurilor (cu efectele stiute: despadurire salbatica si emisii CO2).

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)	Member States need to open their support schemes to renewable generation from other Member States
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Please explain how this could be achieved for other Member States (e.g. through convergence of national schemes, compensation mechanisms or other)

-open reply-(optional)

Convergenta schemelor de sustinere.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)	No, support schemes do not have a significant distorting impact on competition
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## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious	Lack of credible and certified training and qualification - Other (please specify)
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impediment to further growth of renewables following Member States' implementation of the provisions of the Directive? -multiple choices reply-  
(optional)

C.1.1. Please provide explanations and specific examples where available  
-open reply-(optional)

Autoritatile nu au structuri competente care sa analizeze studiile de fezabilitate si sa blocheze inca din aceasta faza si apoi, in faza emiterii autorizatiei de constructie, acele proiecte care, desi RES, nu sunt suficient de eficiente. Sunt necesare proceduri / criterii / valori clare si obligatorii care sa fie incluse in practica administrativa curenta la toate nivelurile. Simpla transpunere a Directivelor europene in legislatie secundara in statele membre mai noi si mai putin dezvoltate (ca Romania) nu este suficienta. Acest lucru este conditia necesara dar, de departe, nu si suficienta.

C.2. Which policy response to the problems identified above do you consider appropriate?  
-single choice reply-(optional)

Strengthen rules to intrude more directly into Member States procedures in terms of roles of different actors (e.g. one-stop-shop), maximum time-frame or other

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-  
(optional)

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?  
-multiple choices reply-(optional)

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk - producers of renewable energy should be obliged to sell their production on the market and aid be granted exclusively as a) premiums or b) investment aid

E.2. How can it be ensured that market arrangements reward flexibility?  
-multiple choices reply-(optional)

Dedicated arrangements to reward availability of generation capacity

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)

## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)

Costs/lack of financial support - Lack of suitable information - Lack of public support - Lack of capacity (installers, other)

F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)

Geothermal

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

Stimulare proportionala cu factorul de performanta sezoniera si emisiile de CO2 efectiv obtinute si obiectiv monitorizate. Proceduri / standarde de monitorizare aplicate la nivel european.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)

G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)

G.2.1. Please explain your answer -open reply-(optional)

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)

H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)

Yes

I.2. Do you think the EU should further facilitate cooperation with third countries when it comes to the development of the potential for

No, the EU should first focus on developing its own renewable potential

renewable energy? -single choice reply-(optional)	
I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)	N/A
I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)	Other measures (please specify)
Please specify which other measures -open reply-(optional)	
Transfer de know-how; Transfer de sisteme normative / proceduri / standarde; Cooperare in activitati de cercetare / dezvoltare; Promovarea solutiilor top-of-the-line peste tot in Europa.	
I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)	
I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)	
<b>J. TECHNOLOGY DEVELOPMENT</b>	
J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)	System integration
J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)	
J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships? -open reply-(optional)	
GEOTHERMAL - Heating and cooling systems with geothermal heat pumps due to European-wide availability. It could be the base of public-private partnerships in large scale applications and geothermal district heating.	

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply- (optional)	Successful but some drawbacks (please specify which)
Please specify which drawbacks -open reply-(optional)	
Re-prioritizarea tehnologiilor RES pe baza unor studii aprofundate de potential teoretic / tehnologic / economic.	
J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline? -open reply-(optional)	

<b>IDENTIFICATION</b>	
1. Please enter your <b>name</b> and, where relevant, the <b>name of the organisation</b> you represent. Please include also an <b>e-mail</b> address for contact purposes for use only if we need clarification about your responses. -open reply-(optional)	Joseph Caulfield Turn 180.ie info@turn180.ie
2. Are you responding to this questionnaire on behalf of /as: -single choice reply-(optional)	NGO
3. Please indicate your country -single choice reply-(optional)	Ireland
4. How would you prefer your contribution to be published on the Commission website, if at all? -single choice reply-(optional)	Under the name indicated (I consent to publication of all information in my contribution and I declare that none of it is under copyright restrictions that prevent publication)
<b>A. GENERAL POLICY APPROACH</b>	
A.1. Is there a role for new targets for renewable energy sources post-2020 assuming that any targets must be consistent with climate mitigation and energy efficiency policies and targets as is currently the case with the 20/20/20 targets in the Europe 2020 strategy? -multiple choices reply-(optional)	No, targets for renewable energy sources are unnecessary
A.1.1. Please explain the reasons for your answer (such as the scope and contribution from GHG targets/ETS, the need to address other environmental, security of supply or technological development benefits) -open reply-(optional)	
Green House Gases resulting from energy production Are not a threat to the economic or enviornmental well being of E.U. citizens. Introduction of uneconomical energy sources by supporting subsidies and other economic distortions are gravely damaging to E.U. citizens economic and social well being.	
A.2. Are other policy elements necessary to promote renewable energy post-2020, such as: -multiple choices reply-(optional)	Other (please specify)
Please specify which other policy elements? -open reply-(optional)	

There is no need to promote renewable energy post 2020. To do so is contrary to the good government of the E.U. and not in the best interest of it's citizens.

## B. FINANCIAL SUPPORT

B.1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration? -single choice reply-(optional)

No

B.2. If renewable energy sources require support post-2020, how do you think this can best be achieved with a view to achieving a cost-effective deployment? -multiple choices reply-(optional)

Phase out support schemes over time (please specify for which technologies if applicable)

Please specify for which technologies (if applicable) to phase out support schemes over time

-open reply-(optional)

Renewables should not be supported in any way which promotes higher costs, low efficiency power generation or taransportation motive power

B.3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables? -single choice reply-(optional)

No, support levels should be entirely up to Member States

B.4. Should the structure of financial support be gradually aligned EU-wide? -single choice reply-(optional)

No

B.5. With regard to questions B.3. and B.4. please specify if you see a difference between the different sectors (electricity, heating and cooling, transport). -open reply-(optional)

No

B.6. How do you see the relation between support schemes for renewable energy and the requirements of the internal electricity market for the period after 2020 against the background of a rising share of renewables? -multiple choices reply-(optional)

Member States should open their support schemes to renewable generation from third countries

Please explain how it could be achieved for third countries -open reply-(optional)

Member states should be allowed to determine in the interests of their own citizens. If and how all of their power requirements should be met even to the total exclusion of (some ) renewable.

B.7. Do national support schemes and differences between such schemes distort competition? -single choice reply-(optional)

Yes, all support schemes distort competition to a similar extent

## C. ADMINISTRATIVE PROCEDURES

C.1. Which of the following issues relating to administrative procedures, information and training do you consider acting as a serious impediment to further growth of renewables

Length and complexity of administrative procedures relating to authorisation/certification/licensing - Lack of commonly agreed technical specifications - Lack of information on support schemes

following Member States' implementation of the provisions of the Directive? -multiple choices reply- (optional) or other - Lack of credible and certified training and qualification

C.1.1. Please provide explanations and specific examples where available

-open reply-(optional)

All of the listed issues act as impediments to the rational assessment of proposals to question and/or oppose renewable energy targets which the E.U. has requires member states to implement without cost/benefit analysis.

C.2. Which policy response to the problems identified above do you consider appropriate?

-single choice reply-(optional)

Other (please specify)

Please specify which would be in your view a workable solution to eliminate barriers -open reply-(optional)

All administrative procedures should be required to implemented in a fully transparent and publicly accessible manner so as to ensure public knowledge of the unnecessary costs they will be required to bear in order to increase renewable energy penetration.

## D. GRID INTEGRATION OF ELECTRICITY FROM RENEWABLE ENERGY SOURCES

D.1. Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? -multiple choices reply-

(optional)

None of the above

D.1.1. Please specify which obstacles and the nature and degree of them for each -open reply-(optional)

D.2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective?

-multiple choices reply-(optional)

None of the above

D.2.1. Please explain why -open reply-(optional)

D.3. With regard to system integration of wind and solar power, what measures do you consider most important to increase the flexibility reserve of the system: -multiple choices reply-(optional)

Other (please specify)

Please specify which other measures -open reply-(optional)

No measures should be introduced which give renewable preferential or exclusive access nor should they receive any subsidy or financial support support or fiscal preferential treatment over other energy sources.

## E. MARKET INTEGRATION

E.1. In which of the following ways could renewable energy be made responsive to market signals? -multiple choices reply-(optional)

Price risk – producers of renewable energy should operate without any aid

E.2. How can it be ensured that market arrangements reward flexibility?

-multiple choices reply-(optional)

E.3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables -single choice reply-(optional)	Wholesale markets would have to move to reflecting full costs
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## F. RENEWABLES IN HEATING AND COOLING

F.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in the heating and cooling market beyond 2020? -multiple choices reply-(optional)	Lack of public support
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F.2. What pathways do you consider to be the most promising for further increasing the share of renewable energy in heating and cooling beyond 2020? -multiple choices reply-(optional)	Other (please specify)
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Please specify which other pathways -open reply-(optional)

Remove barriers to entry of more nuclear and low emission gas fired generation.

F.3. How do you see the interaction of promoting further use of renewable energy in heating and cooling and enhancing energy efficiency in this sector? -open reply-(optional)

We don't.

## G. RENEWABLES IN TRANSPORT

G.1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport? -multiple choices reply-(optional)	Costs - Lack of standards - Lack of infrastructure - Limits of availability of sustainably produced biofuels
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G.2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy? -multiple choices reply-(optional)	Water
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G.2.1. Please explain your answer -open reply-(optional)

Water transport is by far the least polluting and energy efficient means of the bulk transport of goods. Also the least polluting and safest.

## H. SUSTAINABILITY

H.1. Do you think that additional sustainability criteria are necessary in the post 2020 period? -multiple choices reply-(optional)	Yes, sustainability criteria should apply to both all biomass and fossil fuels
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H.1.1. Please explain -open reply-(optional)

## I. REGIONAL AND INTERNATIONAL DIMENSIONS

I.1. Do you consider current rules for cooperation between Member States sufficient to fulfil their purpose, i.e. realisation of cost-efficient renewable potential in the EU? -single choice reply-(optional)	N/A
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I.2. Do you think the EU should further facilitate	N/A
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<p>cooperation with third countries when it comes to the development of the potential for renewable energy? -single choice reply-(optional)</p>	
<p>I.3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area? -single choice reply-(optional)</p>	<p>N/A</p>
<p>I.5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders", the European Commission proposes to promote cooperation on renewable energy projects with the Southern Mediterranean countries and to gradually build a renewed EU-Mediterranean energy partnership focus on electricity and renewable energy. How do you consider this should relate with the EU internal renewables policy? What should be the priorities? -open reply-(optional)</p>	
<p>Co-operation should be uninhibited and member states should be free to engage in any co-operation with third countries which they deem to be in their national interest.</p>	
<p>I.6. The possibility to explore regional cooperation and a coordinated, more strategic approach to grid connection for the rapidly growing volume of offshore wind generation in the North Sea is currently being explored in the framework of the North Sea Countries Offshore Grid Initiative (NSCOGI). Do you think such cooperation should be further fostered? What benefits do you think could arise from it? Do you consider that this experience could be generalised and applied elsewhere? -open reply-(optional)</p>	
<p>No- no arrangements should be to facilitate totally uneconomic offshore wind power access. It should only be accessible on a fully costed basis- if it can't compete so be it.</p>	
<h2>J. TECHNOLOGY DEVELOPMENT</h2>	
<p>J.1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives? -multiple choices reply-(optional)</p>	<p>Other (please specify)</p>
<p>Please specify which other key challenges -open reply-(optional)</p>	
<p>Affordability-E.U. citizens must not be economically penalized to facilitate non economic and value destructive technologies.</p>	
<p>J.2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050? -open reply-(optional)</p>	
<p>The whole plan to reduce GHG emissions beyond current levels should be terminated. It is based on mitigating a wholly hypothetical future risk that is subject to huge scientific controversy and uncertainty that CO2 plays any role in Global Temperatures.</p>	
<p>J.3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of</p>	

industry to engage in public private partnerships?

-open reply-(optional)

Nuclear-Inparticular research into Thorium Cycle Energy Production

J.4. How successful do you consider the existing measures have been and which have been the main drawbacks? -single choice reply-

(optional)

Not successful

J.5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

-open reply-(optional)

No