

## Statement

# on the consultation document "Renewable Energy Strategy"

Public consultation of the European Commission's  
Directorate-General for Energy (DG Energy)

Berlin, 7 February 2012

Interest Representative Register ID: 20457441380-38

## Introduction

On 6 December 2011, the European Commission's Directorate-General for Energy (DG Energy) published a document for consultation<sup>1</sup> on renewable energies' development strategy after 2020. The EU Commission considers that a continued strong development of renewable energies is required with a view to achieving an 80-95 % reduction of GHG emissions by the year 2050.

The results of this consultation are likely to be published during the second quarter of 2012 through an EC communication. The consultation results will probably be taken into consideration for drafting the progress report on the Renewable Energy Sources Directive (RES) in 2014.

The aim of the consultation is to review the orientation of the framework conditions for renewable energies and conclude from the findings a possible need for adjustment.

By means of the present statement, the BDEW would like to assess the consultation document prepared in the framework of this process and answer in particular the questions posed in this document.

## Section A „General Policy Approach“

*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? “*

- *Yes, a mandatory target at EU level is appropriate.*

### Explanation:

BDEW endorses drawing up of mandatory post-2020 climate protection targets. However, breakdown to Member States and sectors must lead to proportionate and efficient allocation. That means that sub-targets for the different states and sectors should be determined in such a way that the EU-wide target can be achieved with the lowest overall expenditure.

The experience gained with the implementation of Article 16 of the Directive 2009/28/EC for the promotion of the use of energy from renewable sources<sup>2</sup> (Renewable Energy Sources Directive) shows already today that the achievement of the „20/20/20 targets“ is very presents great difficulties to individual Member States. Thus, the achievement of targets by the Member States should be obligatory also after 2020.

Besides, a definition of sectoral targets for renewable on a national level, particularly as far as the „electricity“, „transport“ and „heat and cold supply “ sectors are concerned, should be transparent and comprehensible.

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<sup>1</sup> Online on Internet: URL: [http://ec.europa.eu/energy/renewables/consultations/20120207\\_renewable\\_energy\\_strategy\\_en.htm](http://ec.europa.eu/energy/renewables/consultations/20120207_renewable_energy_strategy_en.htm).

<sup>2</sup> Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy produced from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

On the way towards a coherent Europe-wide support scheme, particularly the use of flexible cooperation mechanisms described in the Renewable Energy Sources Directive may be an efficient instrument to ensure greatest possible cost efficiency in the light of the considerable overall costs required for the intended restructuring of energy supply in Germany and Europe. Furthermore, the utilisation of the aforementioned mechanisms represents a decisive approach to faster implementation of projects and larger public acceptance.

Moreover, it is of utmost importance to closely interlink and coordinate an obligatory quota for renewable energies with the EU targets for GHG emission mitigation and the improvement of energy efficiency. A post-2020 target cannot be isolated from these targets.

It is advisable to ensure that the development of renewable energies after 2020 takes account of the protection of waters and water supply in the European Union. In particular it is recommended improving the coherence between the development targets in terms of renewable energies and the provisions of the EU Nitrate Directive, the Habitats Directive, the EU Water Framework Directive and the GAP reform. With regard to the Water Framework Directive, it should be made sure not to impede an environmentally friendly operation and development of hydro power.

*2.: „Are other policy elements necessary to promote renewable energy post-2020, [...]”*

- *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). 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 a maximum of 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.*

Explanation:

BDEW advocates that in particular the market and system integration of renewable energies be promoted. Appropriate European framework conditions and incentives should be created with a view to especially promoting feed-in of renewables-based electricity in line with demand.

With a larger share of electricity generation from renewable energies, direct trading of electricity quantities will require the use of electricity storage facilities. They are the key to the utilization of the largest possible quantity of electricity generated from renewables. Moreover, storage facilities represent already today an essential instrument for maintaining the stability of the grid.

At European level, the Renewable Energy Sources Directive stipulates that there is a need to support „the use of energy storage systems for integrated intermittent production of energy from renewable sources“. Moreover, Article 16 (1) of the RES Directive requires that Member States „take appropriate steps to develop transmission and distribution grid infrastructure, intelligent networks, storage facilities and the electricity system, in order to allow the secure operation of the electricity system [...]“. BDEW considers that making storage technologies subject to the payment of end user charges like e.g. network fees and EEG levy (in Germany) is opposed to the obligatory implementation of the Renewable Energy Sources Directive. This fact reveals an additional need for harmonisation: For instance, pumped-storage power plants in Austria are today (like in Switzerland) subject to insignificant charges, whereas in Germany they have to pay the multiple amount of end-user charges. That means a serious distortion of competition.

BDEW considers that storage technologies are no final consumers. Within an energy supply system, a final consumer is an end user of the electrical energy transmitted. Where final consumers are supplied, the electricity is “lost” to the energy grid after withdrawal by the final consumer, and is not made available again to the grid.

However, the situation is different with the role and function of electricity storage facilities. These are facilities accepting, for instance, volatile feed-in of electrical energy from wind and solar during low-load hours and feeding it back into the grid during hours of high demand. As a result, storage facilities are important to adjust electricity produced from wind and photovoltaic energy to demand (of final consumers). Especially the purpose of electricity feed-back reveals the difference between electricity storage facilities and final consumers.

Moreover, there should be a wide definition of the term „energy storage facility“ including also technologies which do not feed the electricity back into the grid, but make it available to a different energetic utilisation. The currently investigated technologies of „power to gas“ and the possibility of using “dump energy” from wind or PV plants in heat or compressed-air supply networks can be named as examples here. The use of such technologies might enable the share of renewable energies in other energy sectors to be increased in future.

BDEW therefore recommends making a clear-cut distinction between electricity storage facilities and final consumers at European level. This would enable barriers to capital expenditure and research activities to be removed and the use of renewable energies to be supported.

The realisable potential for the development of large-scale storage technologies available today (pumped-storage power plants) is limited. The potential and the costs of innovative storage technologies are still unknown. The pan-European grid development and sufficient conventional reserve generating capacities are therefore an additional important basis for the development of renewable energies in Europe which electricity storage facilities can't even get close to.

Above all, apart from the development of transmission grids, it is of decisive importance to develop the necessary infrastructure at the level of distribution grids. The increased use of renewable energies aimed at within the EU, especially on the basis of cooperation mechanisms, can only be achieved in conjunction with a grid infrastructure development. The nec-

essary reinforcement and optimisation of the grid call for a stable regulatory framework on a long-term basis and an adequate return on capital employed.

Investments in grid development due to the German Renewable Energy Sources Act (EEG) must be recognised as permanently uncontrollable costs. Moreover, administrative costs (OPEX) resulting from the implementation of legal provisions have to be adequately taken into consideration and charged.

In order to successfully implement the integration of renewable energies into a European energy supply system, the development of interconnectors between Member States is imperative in addition to a more demand-oriented feed-in of renewables-based electricity and demand-side management measures, to enable unrestricted electricity exchanges to be carried out in Europe. However, the further development of a European electricity supply system is contravened by current trends (like e.g. the installation of phase shifter transformers at the national borders of different Member States).

The experience gained by Member States with the introduction of renewable energies has shown that the protection of the environment and particularly that of water, soil and habitats was not comprehensively regulated and that there was frequently a lack of further analyses. It should therefore be made sure that the necessary analyses in terms of environmental impacts are carried out within all EU Member States and the results are taken into consideration for the solution of open questions.

It will not be possible to calculate investments in conventional back-up power stations, electricity storage facilities or smart efficiency technologies without undistorted price signals which arise from the competitive European internal electricity market. They are also indispensable to ensure that the energy turnaround does not jeopardise security of supply and overstrain the international competitiveness of the national economy.

## **Section B „ Financial Support “**

1.: *„Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration?“*

- *For selected technologies/circumstances/markets (please specify)*

### Explanation:

As mentioned above, BDEW advocates that in particular the market and system integration of renewable energies be promoted.

Especially in recent times, payment rules have been adjusted in some countries on the basis of feed-in tariffs (e.g. in Germany, France, Spain) in the light of the tense overall economic situation and the partly very dynamic development of renewable energies. On the other hand, quota systems increasingly include elements which are to create a stronger incentive for capital expenditure in certain technologies.

The aim must be to progressively introduce renewable energies to the market and reach their integration into the energy supply system, as the European Commission also emphasised with

good reason in its Communication<sup>3</sup> of 31 January 2011. This discussion should be held against the background that an extended European market enables stronger incentives and improved perspectives for market-driven action to be developed. To this end, it is essential to establish close cooperation in good time with a view to exchanging best practices and procedures for the introduction of elements for market and system integration.

Until 2020, there will be a need for support to technologies from today's perspective for the integration of renewable energies.

The need for support over a longer period depends on the extent to which European targets in terms of renewable energies and reduction of GHG emissions are being interlinked. It would be expedient to develop a market design which enables the targets set to be reached and does not require parallel support schemes for renewable energies, storage facilities, backup power stations or smart technologies.

*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?“*

- *Making support schemes more market-oriented (please specify how).*
- *Accelerate convergence of national support schemes.*
- *Open up national support schemes to cross-border projects.*

Explanation:

In view of the considerable overall cost for the desired transformation of energy supply in Germany and Europe, BDEW considers highest possible cost efficiency to be indispensable in order to ensure financing in the light of the current economic situation and with respect to the industry's competitiveness in Europe, and to guarantee public acceptance. The recently recorded increase of both indirect costs (rise of network fees due to renewables) and direct costs (EEG levy in Germany) reveals more and more the limits of the system's strength.

Different studies carried out at national and European level revealed considerable cost savings to be achieved by an optimised development of renewable energies throughout Europe in regions where they can be used most efficiently, or by coordinated planning and implementation of the corresponding projects<sup>4</sup>. Some countries are already implementing joint support schemes.<sup>5</sup> It is advisable to define a strategic direction to be followed on this way. The European Commission assumes that annual savings of up to 10 billion Euros can be achieved by a harmonisation of support schemes for renewable energies<sup>6</sup>.

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<sup>3</sup> Communication of 31 January 2011 „Renewable Energy: Progressing towards the 2020 target“, COM (2011) 31.

<sup>4</sup> “ European RES-E Policy Analysis” (EWI, 2010), “European Wind Integration Study” (EWIS 2010), “TradeWind – Integrating Wind” (EWEA et al. 2009), „Off-shore Grid Study“ (3E et al. 2008-2010), “Financing Renewable energies in the EU Energy Market” (ECOFYS et. al. 2011).

<sup>5</sup> Cf. joint support scheme for renewable energies between Norway and Sweden from 2012.

<sup>6</sup> Communication of 31 January 2011 „Renewable Energy: Progressing towards the 2020 target“, COM (2011) 31.

Furthermore, BDEW considers that stronger support to projects carried out in EU Member States or third countries has to be taken into consideration. Administrative support to or cooperation with other States could already facilitate and accelerate the realisation of relevant projects. For instance, the industry established in Germany in the field of renewable energies could provide additional possibilities of development through its considerable expertise if the implementation of projects in EU Member States or third countries was granted stronger support.

In addition to national approaches for improved market and system integration, the European market too offers considerable potential. Only the consistent market integration of renewable energies enables plant operators to meet their responsibility for system stability. As electricity exchanges between countries are increasingly influenced by (partly prioritised) national feed-in, it is essential to arrive at a common European understanding. As a further step, increased convergence or even harmonisation of support schemes can then be taken into consideration.

The use of cooperation mechanisms defined in the Renewable Energy Sources Directive would thus be an important step towards the necessary higher cost efficiency for the Europe-wide development of renewable energies. Moreover, it represents a decisive approach to arriving at a faster implementation of projects and greater public acceptance.

*3.: „Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables?“*

- *Yes, with EU-wide benchmark values for support levels per technology.*

Explanation:

To date, any law on the promotion of the development of renewable energies throughout Europe has regulated the development of renewables on a national level only. Possibilities for cross-country development of efficient locations have not been taken into consideration. On condition of an adequate interconnection of systems, the use of wind power in Northern Europe, solar energy in Southern Europe, biomass in Central/Eastern Europe and hydro power in the Alpine region as well as in Scandinavia could from a mere technical point of view take advantage of location benefits and thus lead to a more efficient utilisation of investment means.

Furthermore, a great variety of support mechanisms leads to various impacts on the markets in the different Member States.

BDEW therefore considers that a harmonisation and standardisation of support schemes for the development of renewable energies is necessary to counteract market distortions and arrive at a more efficient development of renewables. Harmonisation should pay less attention to the absolute amount of support rates than on instruments for increasing the players' market awareness.

*4.: „Should the structure of financial support be gradually aligned EU-wide?“*

- *Yes.*

Explanation:

Harmonisation of support schemes in Europe would entail a maximum of efficiency in terms of costs and allocation.

In addition, it is important that different support schemes from one State to the other do not have an impact on the conditions of non-supported generators in the different States, in order to prevent market distortions between these generators in cross-border competition.

*5.: „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?“*

- *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).*
- *Member States should open their support schemes to renewable generation from third countries (as above, please explain how this could be achieved).*

Explanation:

As mentioned above, the implementation and application of flexible cooperation mechanisms can be a first important step towards the harmonisation of support schemes in Europe. Opening-up of support schemes should not be limited to EU Member States but also include the possibility of cooperation with third countries.

Furthermore, adverse effects on non-supported conventional generators should be avoided in the promotion of renewable energies. That means, for instance, that investment incentives should not be undermined. In addition, it is advisable to also guarantee the balance between the principle of subsidiarity, the long-term effectiveness of the internal energy market and the necessity of security of supply within the 27 Member States.

*6.: „Do national support schemes and differences between such schemes distort competition?“*

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

Explanation:

Differences between support schemes can definitely have an adverse effect on competition. This circumstance can be even intensified by the fact that the current prioritization of intermittent feed-in of renewables-based electricity in different Member States has a negative effect on the remaining conventional generators. These distortions of competition do not exist to the same extent in countries with lower support to or rate of development of renewables.

## **Section C „Administrative Procedures“**

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? Please provide explanations and specific examples where available.[...]“

- Length and complexity of administrative procedures relating to authorisation/certification/licensing.
- Lack of commonly agreed technical specifications.
- Other.

### Explanation:

Apart from long and complex authorisation procedures for energy infrastructure projects, the lacking framework for cross-border projects also represents an impediment.

## **Section D „Grid Integration of Electricity from Renewable Energy Sources“**

Zu 1.: „Do you consider that any of the following national rules and framework conditions will still create obstacles to renewable energy production after 2020? If so please specify which obstacles and the nature and degree of them for each of the following [...]“

- Grid connection rules.
- Cost-sharing rules.
- Balancing rules.

### Explanation:

Non-harmonized grid connection rules have a negative impact on the pan-European grid development. However, the latter is an important precondition for an efficient development of electricity generation from renewable energies in Europe.

Moreover, it is imperative to include all technologies for renewable energies, onshore and offshore wind energy plants, in market and system integration costs. This is indispensable with a view to determining the real costs for renewables' market integration and thus bring them in line with the political targets of integration. The declared target of a share of renewables of at least 20 % in gross electricity consumption in Germany in 2020 gives rise to a distinct increase in demand for control and balancing energy from different sources.

In addition, the higher share of renewables in the system will have a detrimental impact on the system's stability. In Member States a merit order is therefore indispensable with regard to renewables' control in order to maintain system stability. This process should take both the benefits of the different technologies and the political targets into consideration.

2: *“Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? [...]”*

- *Obligation for network operators to develop network.*
- *Other (please specify).*

Explanation:

Particularly the finalization of authorization procedures within a defined period is a prerequisite for the integration of larger amounts of renewable energies. However, it is imperative that political and administrative/legal and financial framework conditions allow a timely development of the electricity grid.

Furthermore, it is indispensable to solve the problem of different depreciation and utilization periods between renewables-based plants and the grid development carried out for these plants.

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: [...]”*

- *Increase availability of demand responses (power-to-heat, 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 and power quality (e.g. Voltage) to TSOs and DSOs.*
- *Other (please specify) Increase flexible back-up capacity based on market mechanisms.*

Explanation:

As mentioned above, the current framework conditions in terms of electricity storage facilities represent an impediment to the further development of storage capacities which particularly affects the integration of weather-dependent renewable energies.

In the light of an accelerated development of renewables, mainly flexible conventional power stations will have to ensure that a balance between electricity supply and demand can always be guaranteed with a continuously growing share of intermittent electricity generation from wind and PV. This was clearly shown by an expert opinion<sup>7</sup> on the assessment of flexibilities of electricity generating and cogeneration plants, commissioned by BDEW and published on 5 October 2011. The experts arrived at the conclusion that in addition to the power stations currently under construction (about 12 GW), additional generating capacity of approximately 7 GW will be required in Germany by 2020 and about 19 GW by 2030. Should the intended efficiency increase, i.e. mainly a reduction of demand by improved demand-side energy utilisation, not be realised to the desired amount, additional generating capacity of up to 16 GW (2020) and 32 GW (2030) may be required.

With regard to the electricity grid, it becomes increasingly important to balance growing fluctuations of renewables-based feed-in and thus maintain the balance between electricity generation and demand. It should therefore be a European aim to implement the current plans for electricity grid development and develop storage options so as to ensure that they will be available to the market after 2020 in an economically efficient manner.

**Section E „Market Integration“**

1.: „In which of the following ways could renewable energy be made responsive to market signals?[...]“

- *Generators of renewable energy should bear greater responsibility for system costs.*
- *Balancing risk – generators 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?)*

Explanation:

The renewable energies' contribution to system stability should follow the same rules as the contribution of all other electricity generators. Framework conditions should be designed in a way so as to support market and system integration of renewables and provide for instance incentives for direct trading.

Within the framework of the „Reform of the Common Agricultural Policy - CAP“ it has to be made sure that only those measures are funded to the agricultural sector which are environ-

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<sup>7</sup> Online on the Internet: URL: [http://bdew.de/internet.nsf/id/DE\\_Consentec-Gutachten-Bewertung-der-Flexibilitaeten-von-Stromerzeugungs-und-KWK-Anlagen](http://bdew.de/internet.nsf/id/DE_Consentec-Gutachten-Bewertung-der-Flexibilitaeten-von-Stromerzeugungs-und-KWK-Anlagen).

mentally friendly in terms of soil, water and air and do not jeopardise the implementation of the EU Water Framework Directive, the EU Nitrate Directive and the EU Habitats Directive.

3.: „*In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables[...]*”

Explanation:

Today, pricing for conventional power stations is based on short-term incremental costs (merit order of electricity generation). With a further increase in the share of feed-in of intermittent renewables-based electricity it has to be examined in which way an integration of the support scheme for renewable energies and of the market design for conventional power stations can be implemented.

## **Section F „Renewables in Heating and Cooling “**

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? [...]*”

- *Costs/lack of financial support.*
- *Building regulations etc.*
- *Lack of awareness*
- *Lack of public support*
- *Other. (please specify) Many parties need to be involved with contraire individual interests, high “public service” profile and long payback periods for private investors. Unclearly on heat grid issues: Who should be responsible for the grid, who should in the grid, grid neutrality issues.*

Explanation:

Barriers depend strongly on the respective heating energies which are described hereinafter:

1. District heat from biomass incineration: District heat customers need not make a conversion of their facilities but only pay higher heat prices, where necessary. The power plant operator is responsible for the procurement and the use of solid biomass.  
The main barrier in Germany is first that co-incineration of biomass in power stations is excluded from EEG funding and second that sustainable provision of biomass for power stations is uncertain.
2. Bio natural gas: The use of bio natural gas can increase the climate efficiency of existing and broadly available natural gas without giving rise to higher costs for heating and grid infrastructure, and thus make an important contribution to achieving the climate protection targets in the heat market. However, due to a lack in economic efficiency there is currently no significant addition of bio natural gas feed-in plants recorded in Germany. To enable a dynamic market-driven process towards environmentally friendly and energy saving heat-

ing technology to be realised, it is indispensable that the barriers in the national regulatory framework be removed and that the latter be designed in a neutral manner in terms of energy sources and without giving preference to certain technologies. Particularly the use of bio natural gas in high efficiency boilers should be considered as a clear discharge of the obligation to use renewable energies according to the Renewable Energies Heat Act.

3. Plant oils: Plant oils, too, require no or only an insignificant conversion of facilities of the different heating system operators which however have to pay the (considerably) higher fuel costs. Some bio fuels have been discredited due to their lack of sustainability (palm oil). Apart from costs, the main barrier is the insufficient provision of „sustainable“ bio oils.
4. Wood: The use of wood requires specific boiler installations and storage space. At the present time, wood is cheaper than fossil fuels. The boiler installation with solid fuel feeding is more expensive and possibly more susceptible to faults; it produces ashes and, compared to natural gas, leads to an increase in particulate pollution. Wood heating systems therefore require a higher expenditure in terms of maintenance and disposal.
5. Solar thermal energy: In principle, solar thermal energy is well suited for air conditioning in summer (pro-cyclically with cooling requirements). It is however less suited for heating in winter. As it must be possible to make the total heat power also available without solar energy, a second heating system has to be kept in reserve which leads to a considerable increase in the cost of investment. The potential for using solar energy is rather low in cities as there is an unfavourable ratio between collector surfaces (roofs) and utilisation surfaces. Using solar thermal energy for water heating alone produces only a low CO<sub>2</sub> savings effect.
6. Geothermal energy: The use of geothermal energy leads to high drilling costs for heat production. In addition, there is low potential in Germany in this respect and there exist geological risks.

Also in the field of heating / cooling, it is necessary to ensure a better coherence between the development of renewable energies and requirements in terms of environmental and water protection. Mainly the implementation and observance of hygienic criteria for water and drinking water supply has to be mentioned here.

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 [...]*”

- *Biomass.*
- *Solar Thermal.*
- *Electrification together with higher share of renewables in electricity production.*
- *Water and waste water.*
- *Heating & cooling storage, heat pumps.*

Explanation:

Biomass should be used under the aspect of efficiency with a view to achieving the highest possible utilisation in energetic terms. Moreover, an increase in energy efficiency leads to a rise of the share of renewable energies in all sectors.

In addition, the large potential offered in the field of water and wastewater should be used more intensively.

*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? [...]”*

Explanation:

Apart from the installation of generating capacities and an increase in energy efficiency, the share of renewable energies in gross final energy consumption depends in particular on a reduction of energy consumption in the heat sector. In some cases, increased efficiency will lead to a decline of absolute fuel cost savings (e.g. in the case of solar thermal energy). In the light of a more or less limited output of renewable energies (not only biomass), a high degree of decarbonisation of the heat/cold sector requires a decrease in energy demand and further electrification.

The currently investigated „power to gas” technology might serve as a bridge between the electricity and the heat sectors provided that it turns out to be economically efficient in future. Moreover, current research activities in terms of the use of “dump energy” from wind or PV plants in heat networks aim at the possibility of e.g. a more flexible commitment of cogeneration plants.

Likewise, the commitment of electric heat pumps controlled as a function of electricity supply in a smart grid, can be increasingly utilized in future for system integration of renewables-based electricity in conjunction with efficient provision of heat.

## **Section H „Sustainability“**

*1.: “Do you think that additional sustainability criteria are necessary in the post 2020 period? [...]”*

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

Explanation:

Paying attention to clearly defined sustainability criteria is particularly necessary with regard to solid, liquid and gaseous biomass for the post-2020 period. These criteria are required mainly as a result of increasing competition due to the limited potential quantities in some Member States and against the background of the ambitious targets in terms of renewables’ development. Sustainability criteria should apply to any form of final biomass use and not only to the bio energy sector alone.

In this context, we refer to the BDEW position paper on „Public consultation of the EU Commission on the preparation of a report on additional sustainability criteria at EU level for solid and gaseous biomass used in electricity, heating and cooling“ of 1<sup>st</sup> April 2011 (Interest Representative Register ID: 20457441380-38).

## **Section I „ Regional and International Dimensions “**

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? [...]”*

- No.

### Explanation:

At the present time, it is not possible to make a statement about the effectiveness of current mechanisms with regard to increased cooperation between the different Member States. It is therefore recommended reviewing the existing framework conditions and subsequently making adjustments where necessary.

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? [...]”*

- Yes, cooperation with third countries should be further promoted.

### Explanation:

As mentioned above, particularly the use of flexible cooperation mechanisms of the Renewable Energy Sources Directive seems to be an effective instrument to ensure greater cost efficiency in the light of the considerable overall costs for the intended restructuring of energy supply in Germany and Europe. The same applies to the potentials in third countries, such as in the field of wind and solar energy. It should however be made sure that this process will not have an adverse effect on the local share of renewables.

3.: *“Should investments in electricity networks in some Member States (i.e. Spain, Greece, and Italy) be prioritized for this purpose? [...]”*

- No.

### Explanation:

It is essential to develop electricity grids throughout Europe. Focus on a certain region (here South Europe) should be avoided. What is rather needed is an exact analysis to determine existing points of congestion of electricity transmission capacities or points where such congestion is likely to occur. The development of electricity transmission grids should be prioritized there. Monitoring at regular intervals is essential in this context.

In addition, it is necessary to grant separate support to the development of electricity distribution networks. Distribution networks which have been disregarded to date in national and European support schemes are increasingly gaining in importance for feed-in of electricity from decentralised renewables.

*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?"*

Explanation:

The development of renewable energies in the MENA region should be cooperatively supported. In particular, it is essential to ensure that the relevant framework conditions like market access and grid connection are guaranteed. Nevertheless, electricity generation from renewable energies in this region could cover 15 percent at the most of electricity demand in Europe in 2050 (e.g. Dii<sup>8</sup>). Thus, the major part of renewable energies would still (have to) be used within Europe.

The development of renewable energies outside Europe should be subject to long-term planning. However, a well functioning internal market and the development of the necessary electricity grid infrastructure constitute crucial basic conditions to this end.

*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?"*

Explanation:

European activities like e.g. the NSCOGI are to be welcomed. This initiative could lay the foundation for a European support scheme and be further advanced. However, there are still many open questions: e.g. the question has still to be solved where to feed the electricity in technical terms into the grid.

In any case, the interconnection of wind farms to be connected to an offshore grid is only reasonable through diversified interconnection with onshore electricity grids in order to ensure sufficient flexibility. Moreover, it would also be possible to connect non-EU members, like e.g.

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<sup>8</sup> Online on the Internet: <http://www.dii-eumena.com>.

Norway, to such a grid. However, as already mentioned, this still requires regulatory and political framework conditions, such as the elaboration of flexible cooperation mechanisms.

## **Section J „Technology Development“**

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.*

### Explanation:

The integration of intermittent renewable energies becomes considerably more difficult with an increase in its share in generation. Novel storage possibilities like intermediate storage in gaseous media require a high expenditure in the light of the current state of the art, and are still associated with high energy losses due to multiple conversion processes. Therefore, a high research demand exists in this area. In addition, pilot projects should also be promoted in this area.

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