

Public consultation on the Renewable Energy Strategy

Introduction

The promotion of renewable energy is a cornerstone in the EU's climate and energy strategy until 2020 as illustrated by the 20/20/20 targets for greenhouse gas reductions, energy efficiency and renewable energy sources contained in the Europe 2020 Strategy for growth and jobs¹. This is because renewables are considered to provide various benefits: they not only contribute to our environment and climate policy objectives but also help to diversify our energy supply and lower our dependence on foreign suppliers, reduce exposure to resulting volatility of energy prices and contribute to technology development, regional development and employment.

The legislative framework as regards renewable energy is laid down in the Renewable Energy Directive² ('the Directive') which sets an obligatory target of 20% renewable energy in gross final energy consumption as well as a 10% target for the share of renewable energy in transport for 2020. The Directive contains a much-reinforced set of provisions to facilitate the development of renewable energy, such as a legal requirement for the Member States to prepare National Renewable Energy Action Plans (NREAPs). The review of NREAPs has shown so far that the comprehensive and binding regulatory framework provided by the Directive is effective in driving forward renewable energy development to achieve the ambitious targets that the EU has set itself.³

According to Member States projections, renewable energy will grow at a faster pace in the years up to 2020 than in the past, and the overall share of renewable energy in the EU will exceed the 20% target in 2020. Moreover, the achievement of our overall energy and climate policy targets requires stronger efforts towards energy savings. The Commission has proposed to strengthen the legislative framework on energy efficiency earlier this year⁴. Strong policies on efficiency and renewable energy are mutually reinforcing as lower overall consumption allows reaching the renewable targets at lower costs and a rapid adoption of the energy savings proposal would help achieve the aims of renewable energy policy.

In March 2011, the Commission published a roadmap for a low carbon economy⁵ and a transport white paper⁶. Furthermore the Commission will shortly publish a roadmap on the EU's energy system until 2050. Both of these documents are looking at the consequences of achieving substantial reductions (80-95%) of greenhouse gas emissions in the EU until 2050 (as part of a global agreement with similar commitments from other countries), and at the implications for energy policy beyond the 2020 horizon. In this context, the present public consultation is intended to help prepare a Communication to inform the EU's renewable energy policy for the period post 2020. It is foreseen that this Communication will be adopted by the Commission in the first half of 2012. This will complement a Communication on the Internal Energy Market also planned for next year which will also help inform the evolution of the EU's wider energy policies following on from the Energy 2050 Roadmap.

¹ COM(2010) 2020

² Directive 2009/28/EC OJ L140 of 5.06.2009 p. 16

³ See: http://ec.europa.eu/energy/renewables/transparency_platform/action_plan_en.htm. Source of the following data on the National Renewable Energy Action Plans except where shown otherwise are Renewable Energy Projections as Published in the National Renewable Energy Action Plans of the European Member States, ECN/EEA report.

⁴ COM(2011)370.

⁵ COM(2011)0112.

⁶ COM(2011)0144.

The current targets for energy and climate embodied in the Europe 2020 Strategy should be seen as interlinked and mutually reinforcing. It is therefore only appropriate to consider establishing standalone targets for renewable energy sources post-2020 in the context of possible post-2020 targets for energy efficiency and climate mitigation including the functioning of the ETS.

As such, the main purpose of the Communication on renewable energy will be to examine the conditions that might be necessary for a further development of renewable energy in a medium term perspective – i.e. until 2030. This would cover the three pillars of energy policy (sustainability, security of supply and competitiveness) and be consistent with the long-term decarbonisation scenarios presented in the 2050 Roadmap which all point to a substantially increased share of renewable energy sources. This points to the need to ensure a cost-effective development of renewable energy potential, as well as to ensure that their further expansion happens in line with the requirements for system stability (electricity) and is consistent with other Union policies, notably climate mitigation, the internal market, international cooperation, technology development and protection of the environment, including biodiversity.

The current policy towards renewable energy is established in the Renewable Energy Directive. This sets legally binding targets for each Member State for 2020. It requires Member States to undertake administrative reforms and simplification of planning, authorisation and electricity grid operation as well as developing the electricity grid to manage increasing flows of electricity from renewable energy sources. It creates strict sustainability criteria for the use of biofuels and bioliquids and cooperation mechanisms to enable Member States to reach their targets more cost effectively. The Directive already contains a 2014 review clause regarding the GHG savings thresholds, the measures and the impacts of biofuels and bioliquids and the cooperation mechanisms and a requirement to present a post 2020 roadmap in 2018. However the Commission senses a growing belief amongst stakeholders that planning for the post 2020 period already requires consideration. This is the function of this public consultation and the Commission's planned 2012 Communication.

The Directive is based on the rationale that a positive framework for renewables development is necessary due to a number of market failures or imperfections. These include non-internalisation of negative externalities of conventional energy forms, the presence of subsidies for other energy forms, imperfect market structures, regulatory barriers, the status of many renewable technologies as "infant industries" together with significant inertia of the system, and barriers related to information and public perception.

At this point, it is appropriate to assess the validity of the current approach for a period where renewable energy will move from margin to centre stage and where – at least the more advanced technologies – will be applied on a large scale. The present consultation therefore centres on the question to what extent and in which form policy interventions on EU and national levels will continue to be needed after 2020, respectively how the present approaches should be adapted. This does not preclude that some of the issues and measures presented below might already be relevant for the period leading up to 2020.

In this context a few issues deserve particular attention and are therefore covered more in detail in the following questionnaire, apart from more general questions on the future policy approach:

- ***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 is considered appropriate.

- **Network issues:** in many cases, today's infrastructure is not yet prepared for the scale of deployment of renewable energy envisaged for 2020 and beyond, specifically in the field of electricity. The Commission's recent proposals on infrastructure development aim at speeding up the development of the infrastructure to help reach our 2020 objectives. However, the wider issues of increasing flexibility, ensuring a competitive electricity market creates the right investment signals and ensuring that incentives are coherent with the internal market all need to be considered for beyond 2020.
- **Regional and international cooperation:** there is growing interest in developing renewable energy potential in cooperation between Member States and with neighbourhood countries. While the cooperation mechanisms in the current Directive provide for a general framework, there is the question whether experience from projects currently under discussion can be expanded and generalised beyond Europe beyond 2020.
- **Technology development:** For a number of the more mature technologies in the field of renewable energy Europe is passing from a phase where the emphasis has been on research to large-scale application. Industrial initiatives have been set up for those technologies in the context of the SET plan that underpin industry commitment to those technologies. At the same time, a broader spectrum of technology development is necessary. Beyond 2020 others should follow in making the step from the laboratory to industrial-size application.
- **Sustainability:** There is concern over the environmental impacts associated with biofuel and biomass cultivation and in particular the greenhouse gas emissions associated with indirect land use change which may be significant. The Directive recognises these concerns and the Commission is currently considering whether to propose legislation in respect of the greenhouse gas emissions from indirect land use change in respect of biofuels and whether sustainability criteria are necessary for biomass. Given the likely growth in the use of biofuels and biomass in the EU some of which would be imported into the EU, the question arises whether further efforts to ensure sustainability would be necessary post-2020.

The consultation is open from 06/12/2011 and closes on 07/02/2012. This questionnaire exists only in English, but responses can be in any EU language. If you have views on some questions and not others, feel free to send an answer covering only these questions.

Contributions will be published here: http://ec.europa.eu/energy/consultations/index_en.htm

<p><i>This document has been prepared by the Commission services as a basis for comments. It does not prejudice the final form of any decision to be taken by the Commission.</i></p>

Section A: General policy approach

In light of the results of recent communications on a Roadmap to a low carbon economy and transport white paper as well as the Energy 2050 Roadmap:

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
 - Yes, an indicative and non-legally binding target at EU level is appropriate
 - Yes, sectoral targets (e.g. electricity, transport, heating and cooling) are appropriate
 - Yes, a combination of EU and sectoral level targets is appropriate
 - No, targets for renewable energy sources are unnecessary

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)

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 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)

Section B: Financial support

Member States at present rely on various forms of national support mechanisms to fulfil their national renewable targets for 2020. This section refers to the further development of support mechanisms post-2020.

1. Do you consider that financial support will continue to be necessary to support renewables post 2020 given their expected greater penetration?
 - Yes
 - No
 - For selected technologies/circumstances/markets (please specify)
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
 - Phase out support schemes over time (please specify for which technologies if applicable)

3. Do you think it would be useful to develop common approaches as regards Member States' financial support for renewables?
 - Yes, with benchmark values for support level per technology per Member State
 - Yes, with EU-wide benchmark values for support level per technology
 - No, support levels should be entirely up to Member States.
4. Should the structure of financial support be gradually aligned EU-wide?
 - Yes (please explain how this could be achieved and which support structure you consider most suitable)
 - No

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

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 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 (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)
6. Do national support schemes and differences between such schemes distort competition?
 - No, support schemes do not have a significant distorting impact on competition
 - Yes, all support schemes distort competition to a similar extent
 - Yes, some support schemes are more distorting than others (please specify which you consider most distorting)

Section C: Administrative procedures

Articles 13 and 14 of the Directive lay down rules on administrative procedures, information and training.

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
 - Lack of information on support schemes or other
 - Lack of credible and certified training and qualification
 - Other
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

- 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
- Other (please specify which would be in your view a workable solution to eliminate barriers)

Section D: Grid integration of electricity from renewable energy sources

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.

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
 - Curtailment regime
 - None of the above

2. Which renewables-specific grid related rules do you consider necessary and proportionate in a post-2020 perspective? (please explain why)
 - Obligation for network operator to develop network
 - Priority or guaranteed access
 - Priority dispatch and obligation on TSO to counteract curtailment
 - Other (please specify).
 - None of the above

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 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)

Section E: Market integration

Current national support schemes expose renewable energies to market signals to various degrees. In many cases, these support schemes nevertheless result in parallel "systems" for conventional and for renewable generation which are largely unresponsive to each other. The following questions ask in which way this could be addressed in a post-2020 perspective where renewables will represent a significant share of the market.

1. In which of the following ways could renewable energy be made responsive to market signals?

- 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)
2. How can it be ensured that market arrangements reward flexibility?
 - 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
 3. In how far do you think today's market design needs to be adapted to provide an appropriate framework for renewables
 - The current wholesale market model based on short-run marginal cost pricing is appropriate
 - 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)
 - Wholesale markets would have to move to reflecting full costs
 - Electricity markets should evolve into energy services markets, earning revenues from more than just electricity

Section F: Renewables in Heating and Cooling

The challenges for renewable energy in the heating and cooling market are sometimes considered to be different in that its use is in many cases already cost-competitive but impeded by other barriers. Many of the barriers should be addressed when the Directive is implemented.

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 suitable information
 - Lack of public support
 - Lack of capacity (installers, other)
 - Other (please specify)
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
 - Geothermal
 - Solar thermal

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

Section G: Renewables in transport

Transport is almost entirely dependent on oil consumption. There is a growing recognition that major efforts are needed to reduce GHG emissions and fossil fuel dependency in this sector. The Directive requires that 10% of transport fuel should come from renewable energy sources but more efforts to reduce oil dependency and GHG emissions are needed post-2020.

1. What do you consider to be the main barriers against a stronger uptake of renewable energy in transport?
 - 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)

2. What sectors of transport do you consider to be the most promising for further increasing the share of renewable energy?
 - Road for passengers
 - Road for goods
 - Rail
 - Water
 - Air

Please explain your answer.

Section H: Sustainability

Currently biofuels have to comply with sustainability criteria in order to benefit from support or to be counted towards renewable energy targets. This is in order to avoid negative side effects from an increasing use of biofuels. In addition, the Commission is currently considering introducing additional requirements related to indirect land use change and criteria for solid and gaseous biomass for energy.

1. Do you think that additional sustainability criteria are necessary in the post 2020 period?
 - No, the existing criteria are already burdensome to implement
 - No, the existing binding sustainability criteria are sufficient
 - 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 explain

Section I: Regional and international dimensions

The cooperation mechanisms of the current Directive offer a framework for cooperation between Member States and with third countries. A number of initiatives are currently under consideration for putting regional coordination in practice, both within the EU as well as with neighbouring regions.

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?
 - Yes.
 - No. (Please specify how they should be amended or which elements added)
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?
 - No, the EU should first focus on developing its own renewable potential
 - Yes, cooperation with third countries should be further promoted (please specify how and with whom, i.e. only neighbouring countries or more widely)
3. Should investments in electricity networks in some Member States (i.e. Spain, Greece, Italy) be prioritized for this purpose?
 - Yes (explain in which way and to which degree)
 - No (explain why)
4. Which measures do you consider appropriate and necessary in order to foster cooperation with third countries in this area?
 - Bilateral agreements between Member States and third countries
 - Agreements between the EU and third countries
 - Other measures (please specify)
5. In its Communication on security of supply and energy cooperation – "The EU Energy Policy: Engaging with Partners beyond our Borders"⁷, 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?
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?

Section J: Technology development

The SET plan presents the strategic framework to accelerate the development and deployment of cost-effective low carbon technologies in the perspective until 2020. For a limited number

⁷ COM (2011) 539 of 7.9.2011 available on: http://ec.europa.eu/energy/energy2020/international/index_en.htm

of technologies industrial initiatives were set up according to two criteria, their large-scale availability by 2020 and the willingness of industry to engage in public private partnerships.

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
 - Industrial manufacturing and supply chain
 - Other (please specify)
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?
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?
4. How successful do you consider the existing measures have been and which have been the main drawbacks? Explain why.
 - Very successful, no drawbacks
 - Successful but some drawbacks (please specify which)
 - Not successful
5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?