Executive Summary

The Commission is preparing a Renewable Energy Strategy to be adopted in the second quarter of 2012. This will complement a Communication on the Internal Energy Market also planned for this year which will also help inform the evolution of the EU's wider energy policies following on from the Energy 2050 Roadmap.

On 6 December 2011, the Directorate General for Energy launched a public consultation on the Renewable Energy Strategy. The public consultation was based on an online questionnaire with 10 sections and 33 questions, some requiring comments and others in the form of multiple choice. The public consultation was open until 7 February 2012. Some 400 contributions were received. Most contributions were received from industry, followed by individuals, NGOs and public authorities. Given the participation from a broad spectrum of organisations as well as citizens, this public consultation offers insights into a large range of stakeholder opinions.

This report summarises the replies of this consultation.

General policy approach: In this section a clear majority of stakeholders expressed support for a dedicated target for renewable energy post-2020, with most participants arguing for a mandatory target. Support for mandatory targets was relatively higher among NGOs than among respondents from industry and the public sector.

Financial support: There was wide support for making support schemes more market oriented, but most respondents considered that national control over support schemes should nevertheless be maintained. As regards common benchmarks for support levels, public authorities were considerably more sceptical than both industry and NGOs. The need for continued support beyond 2020 was seen in a differentiated way, depending on the maturity of the technology concerned.

Administrative procedures: The length and complexity of administrative procedures relating to authorisation, certification and licensing was identified as a key obstacle to further growth of renewables by most respondents.

Grid integration of electricity from renewable energy sources: The need to increase flexibility to enable electricity systems to cope with a higher share of variable renewable supply was confirmed. The most favoured options were demand-side management, infrastructure development and an increased level of storage. Capacity payments for new back-up generation received less support.

Market integration: In this chapter respondents stated that they saw a need to make support schemes more market oriented, in particular by introducing direct marketing of electricity from renewable sources as well as by exposing renewable generation to balancing risk.

Renewables in Heating and Cooling: The decentralised nature of the sector was cited as a main barrier against a stronger uptake of renewable energy as well as the persistence of split incentives of market actors, as e.g. in the case of landlords and tenants.

Renewables in transport: The costs of deployment as well as lack of the necessary infrastructure were identified as the main barriers against a stronger uptake of renewable energy in transport. There was also a call for faster setting of common standards.

Sustainability: There was a clear call for sustainability criteria to be extended to all biomass uses, but also to fossil fuels.

Regional and international dimensions: The role of international cooperation, including with third countries, on development of renewable energy was seen positively. As regards the cooperation mechanisms of the Directive, many respondents felt that further guidance by the Commission might be necessary to make them operational.

Technology development: Most respondents considered the EU's current R&D policy partially successful in promoting a broader technology portfolio. Cost-competitiveness was regarded as the biggest challenge for the technologies promoted by the SET Plan with a view to the 2050 objectives.

1 Introduction

The Commission is preparing a Renewable Energy Strategy to be adopted in the second quarter of 2012. This will complement a Communication on the Internal Energy Market also planned for this year which will also help inform the evolution of the EU's wider energy policies following on from the Energy 2050 Roadmap.

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 will 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. There is a 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.

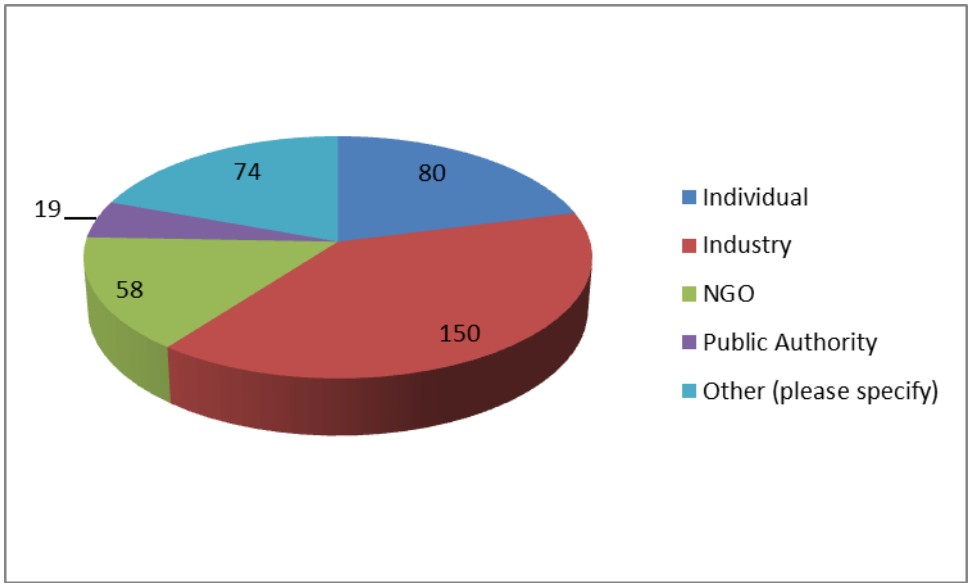
On 6 December 2011, as part of the process of preparation of the Renewable Energy Strategy the Directorate General for Energy launched a public consultation. The public consultation was based on an online questionnaire which contained numerous questions subdivided under the following chapters:

1. General policy approach
2. Financial support
3. Administrative procedures
4. Grid integration of electricity from renewable energy sources
5. Market integration
6. Renewables in Heating and Cooling
7. Renewables in transport
8. Sustainability
9. Regional and international dimensions
10. Technology development

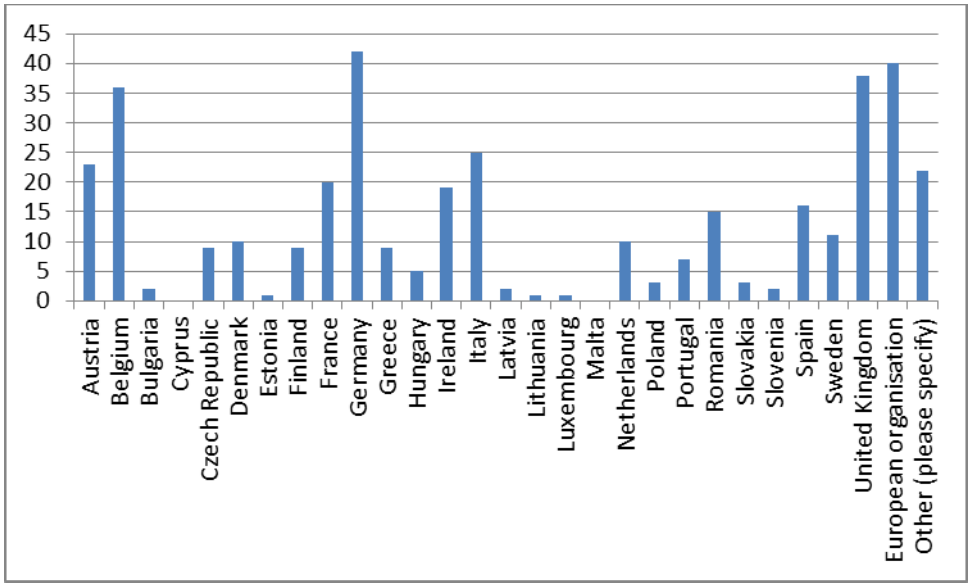
The public consultation was open until 7 February 2012. More than 400 contributions were received. Most contributions were received from industry, followed by individuals, NGOs and public authorities. Member States as such did not participate in the public consultation. The individual contributions have been published on the public consultation webpage[1].

[1] Address to be added.

Participation in the consultation came from a broad spectrum of organisations as well as citizens:



Likewise participation followed a fairly broad geographical spread, with all Member States except from Malta and Cyprus being represented:



In conclusion, this public consultation therefore offers insights into a large range of stakeholder opinions.

2.1 General policy approach

This section inquired about the attitude of participants towards the general policy approach to be adopted for the post-2020 framework. The first question asked whether they saw a role for new targets for renewable energy sources post-2020. A clear majority of stakeholders expressed support for some form of dedicated target for renewable energy post-2020. Only 14% of respondents considered this unnecessary. The relatively highest shares of opponents of new targets are in the categories of NGOs, individuals and others, whereas only a very small percentage of industry participants (9%) and none of the participating public authorities considered targets unnecessary. Among those favouring targets, a clear majority supported mandatory over indicative targets (39% over 14%). Likewise relatively few participants favoured an approach based exclusively on sectoral targets (only 10%).

There was also a question in this section about which other policy elements would be necessary to promote renewable energies post 2020. With multiple answers possible, two elements were clearly singled out as most important: enhanced focus on R&D as well as enhanced facilitation policies such as faster and easier permitting, improved grid access and availability of more sites (both options supported by around 60% of respondents). Among the options given public procurement obligations were seen as relatively least important.

2.2 Financial Support

Replies on the need for financial support post-2020 showed that respondents see a need for a more differentiated approach in that time frame. A majority considered that support should be available for selected technologies (57%) whereas only 13% favoured phasing out all support for renewables post-2020. Most respondents predicted that some renewables technologies would be competitive in that time frame and support should therefore be targeted to those which will not have reached this stage yet. Operative support could be provided for those relatively close to the market whereas at the very initial stage of development R&D support might according to some respondents be more appropriate. Technologies mentioned most often in this context were various forms of ocean energy as well as geothermal. Offshore wind, new solar applications as well as second generation biofuels were also mentioned. As for the conditions under which support for renewables continued to be justified, the absence of full internalisation of external costs, including through a robust carbon price, as well as removal of all subsidies for conventional generation were most often mentioned. On the other hand, some respondents argued that limits to renewables support should be defined ex-ante e.g. in terms of deployment volume, market penetration or time frame.

Replies on the need for more common approaches towards support schemes were quite mixed. As to the level of support 36% considered these should remain under exclusive national control, 22% considered benchmark values for support at national level appropriate and 27% argued in favour of EU-level benchmarks. The support for EU-wide benchmarks was slightly higher among industry respondents than on average (34%). On the other hand, more than two thirds of public authorities responded that support should remain under exclusive national control. For the structure of support more respondents rejected EU-wide alignment than supported it (45% over 37%). Again, strongest opposition to alignment came from public authorities (67%), followed by NGOs (46%), whereas a slight majority of industry respondents favoured structural alignment (43% over 40%).

In general there was wide support for making support schemes more market-oriented. As to which support schemes are most distortive, the majority of respondents avoided a response with explicit reference to generic support types, but rather referred to abstract principles and stressed that distortions were highest in case of over-compensation, respectively lack of proper downward adjustments of support levels. Nevertheless a number of respondents stressed the importance of exposing renewables to market price signals in order to reduce distortions and mentioned a move from feed-in tariffs to feed-in premiums as a step in the right direction. Some respondents also referred to priority access rules as well as non-exposure of renewables to balancing risk as specifically distorting elements.

2.3 Administrative procedures

Asked about non-cost related obstacles to further renewables penetration, the length and complexity of administrative procedures relating to authorisation, certification and licensing was identified as a key obstacle to further growth of renewables by most respondents (62%, multiple replies possible). Lack of commonly agreed technical specifications and lack of credible and certified training and qualification were the other biggest obstacles seen in this category. From the side of the renewable energy sector the absence of clear deadlines for authorisation procedures leading to excessive lead times was stressed as a key problem.

As to the appropriate policy response only very few respondents considered the approach of the current directive sufficient (8%). Most participants either called for more direct intervention into national procedures or even for more harmonisation or mutual recognition in this field. A more European approach to authorisation procedures for infrastructure projects of common interest was also welcomed in this context with reference to the recent infrastructure package proposed by the Commission.

2.4 Grid integration of electricity from renewable energy sources

In relation to the rules on grid access for renewables as laid down in Article 16 of the current Directive, respondents were asked whether they considered obstacles for grid connection of renewables were likely to persist after 2020. Grid connection rules were mentioned most frequently in this context (39%, multiple answers possible), followed by balancing and cost-sharing rules (both 29%). The curtailment regime was regarded as less problematic (23%). A minority anticipated that all obstacles related to grid access for renewables would be removed in a post-2020 perspective (19%). This result was mirrored by another question asking about which of the current rules of Article 16 should be continued after 2020. The obligation on network operators to develop the network as well as priority or guaranteed access were mentioned frequently whereas priority dispatch and counteracting curtailment were regarded as relatively less important.

The consultation also confirmed the need to increase flexibility to enable electricity systems to cope with a higher share of renewable energy from variable sources (i.e. wind and solar). Respondents were given several options how this could be achieved. Increasing availability of demand response and further improvement in infrastructure development and interconnections turned out to be the most favoured options (both supported by 45% of respondents, multiple replies possible). Increasing the availability of storage was also regarded as an important option (40%). Among the diverse options given, dedicated

mechanisms to increase the availability of flexible generation capacity (capacity payments) proved most controversial (only 21% in favour). This was mirrored in some of the explanations received on market design nissues (see also section below) where respondents expressed reserves about capacity mechanisms or stated that should they be considered necessary, they would in any case have to be designed in a way so as not to introduce new distortions in the internal market.

2.5 Market integration

In this chapter respondents stated that they saw a need to make support schemes more market oriented. On how to achieve more market integration two elements of reform to support schemes to expose renewables more directly to market signals were most frequently quoted: a requirement to trade renewables production on wholesale markets and an exposure to balancing risk. In line with these preferences, when it comes to the concrete support mechanisms to be used, many respondents argued for a gradual shift away from feed-in tariffs towards premiums. There were also quite a few respondents who considered quota systems in general more market oriented. As to balancing responsibility some basic preconditions were frequently mentioned that had to be in place to allow exposure in particular of wind power. This included the possibility to trade close to real-time, including liquid intra-day markets, as well as cost-reflective imbalance prices.

Respondents were also asked whether they considered today's market design an appropriate framework for integrating a larger share of renewable electricity. Only a small majority considered that the current wholesale market model based on short-run marginal cost pricing was appropriate (8%). A frequent reply was that wholesale markets would have to move towards reflecting full costs (33%) although some respondents added that this could already be observed in some successful markets. It was also stressed in that context that remaining distortions in the market such as in particular price caps would have to be removed. Moreover an evolution of electricity markets into energy service markets where revenues would be earned from more than just selling electricity was also regarded favourably (25%).

Finally, a number of respondents, especially from the NGOs, stressed that they regarded the current market as grossly distorted by subsidies to conventional and nuclear energy forms which would in any case have to be removed to allow for renewables being successfully integrated into the market.

2.6 Renewables in Heating and Cooling

Asked about the main barriers against a stronger uptake of renewables in the heating and cooling sector, costs or lack of financial support was most often cited (43% of all respondents, multiple replies possible). Other obstacles that received a lot of attention were lack of awareness or unfavourable building regulations. Respondents also took the opportunity to expand on a number of other problems for renewables in the heating and cooling sectors. The decentralised nature of the sector was often cited as a main barrier against a stronger uptake. Split incentives of market actors, as e.g. in the case of landlords and tenants, are considered to make the implementation of changes difficult and respondents see the need for a comprehensive policy approach involving all administrative levels. Furthermore, the respondents reported the lack of a supportive tax policy, which would address the issue of cost competitiveness e.g. through a carbon component in the price of heating fuels. A lack of

education and training for installers to ensure a sufficient number of qualified staff was also frequently mentioned. Widespread in the submissions is the general notion that so far the political attention is too much focussed on electricity, not reflecting the size and potential of the heating and cooling sector.

On the most promising pathways for heating and cooling, perhaps surprisingly solar thermal is the technology which received the most support among the respondents to the public consultation (44%, multiple replies possible), clearly ahead of biomass which was named similarly often as geothermal (both by around 33%). Electrification on the basis of a higher share of renewables in electricity production received somewhat less support (24%). On biomass, respondents raised concerns about the limited availability, alongside concerns on sustainability and the call to operate biomass facilities on highest efficiency levels. Concerning other technologies, heat pumps and heating & cooling storage are mentioned most often, with storage having the potential for increasing grid stability. A high number of comments asked for a neutral policy approach, which is not picking winning technologies beforehand.

2.7 Renewables in transport

Regarding the main barriers against a stronger uptake of renewable energy in transport, the respondents see the costs of a further deployment as the most challenging problem (39%, multiple replies possible). This goes along with a lack of the necessary infrastructure – an issue which was raised to a similar extent. For a faster increase of RES in transport, the respondents also see the need to set standards more quickly – some ask the European Commission to set deadlines to the industry in this respect, with a standard set by the Commission as the fall back option. Another big concern among the respondents was whether sustainably produced biofuels can be supplied on a big scale. As well in this policy area, respondents ask for a long-term regulatory certainty in the entire EU, given the high investment need for a major shift towards renewable energy sources in the sector. Other concerns relate to public acceptance, which can be linked to a lack of suitable information, but as well to sustainability concerns such as indirect land-use change. As a way forward, a high number of respondents proposed to increase the share of RES via electrification and a modal shift, alongside a reduction of energy demand.

Regarding transport sectors where renewables penetration is most likely to be successful, most respondents cited road transport for passengers (46%, multiple replies possible) and rail transport (44%). Whereas good transport by road was still regarded as relatively open to renewable penetration, there was considerably more scepticism among respondents about the possibility to expand the use of renewables in air and water transport.

2.8 Sustainability

Only one question was asked about the future of sustainability criteria in the questionnaire, but the message coming from this was quite clear. When asked about the need for additional sustainability criteria in the period post-2020, a clear majority of respondents confirmed that in their view sustainability criteria should in the future be applied to both all biomass and fossil fuels (51%).

Besides, around 19% considered that additional criteria would be necessary to ensure only the best performing biomass was promoted. Respondents frequently pointed to increased competition for the limited resource biomass and called for taking into account effects of its use on overall carbon stocks. There were nevertheless diverging views in how far aspects of land-use change should be reflected in sustainability criteria. Respondents also made reference to existing regulations in the forestry sector as a basis for ensuring sustainable biomass use. Overall, only a minority of respondents considered that the implementation of the existing criteria was sufficient.

2.9 Regional and international dimensions

Given the lack of practical experience so far with application of the cooperation mechanisms, a slight majority of respondents considered that current rules for cooperation between Member States foreseen in Directive 2009/28/EC where not sufficient or had to be supplemented to become operational (41% over 34% who considered the current arrangements sufficient). Most frequently, more detailed guidance on the use of the flexibility mechanisms was requested from the Commission, including on procedural aspects. Some respondents also called for reinforced efforts to move to a more regional planning when it comes to the use of renewables or at least considered more visibility on the position of Member States towards target fulfilment useful. Some industry respondents also asked that private sector initiatives should be possible without relying explicitly on national governments. Finally, there were also calls for an EU level joint framework rather than relying on purely bilateral initiatives.

A similar point was also made regarding cooperation between the EU and third countries on the development of renewables. In general this was seen as quite a positive course of action, with a clear majority of respondents favouring further promotion of such cooperation (58% over 30% who favoured focusing exclusively on EU domestic resources). Again, more respondents favoured an approach based on agreements between the EU and third countries rather than bilateral agreements to be concluded by Member States (45% over 19%). Among the instruments that could be used to strengthen this dimension, enhanced visibility and transparency for existing projects as well as forecast of third country contributions were mentioned. Contributors also stressed the need for enhanced infrastructure given that physical transfer of electricity is a precondition for joint projects with third countries under Article 9 of the Directive. This concerned not only interconnection between Europe and third countries, but also enhanced interconnection within Europe. Beyond the immediate use of the cooperation mechanisms there were also calls to promote reciprocal investments and market access in bilateral dialogues with all partners.

As far as the preferred partner regions for cooperation on renewable energy is concerned, unsurprisingly North Africa was most often mentioned, followed by other neighbours such as South East Europe (the Energy Community in particular) and Norway. Nevertheless enhanced cooperation with further away countries such as the US or China was also mentioned beyond the context of the cooperation mechanisms.

2.10 Technology development

Based on the choices made for current SET plan, respondents were asked where they saw the remaining key challenges for the technologies currently covered by European Industrial Initiatives (wind, solar and bio-energy in the area of renewable energy). Technology performance and cost-competitiveness were identified as the most important elements in this context (46% of respondents, multiple replies possible), ahead of issues linked to system integration (39%) and industrial manufacturing and supply chain issues (20%). A number of respondents also replied that it was not only about system integration of new technologies, but also about a transformation of our energy systems due to these new technologies. On the existing industrial initiatives a number or comments were also received arguing for enhanced focus on small-scale and more local applications; these respondents perceived the current initiatives (still) to be too much focused on large scale technologies. The need for more training and education programs linked to these technologies was also underlined.

When asked about technologies other than those covered by today's industrial initiatives that had the potential for industrial scale application in a post-2020 perspective or should be in the focus of future research and industry cooperation, the fields most often mentioned were storage technologies, ocean energies such as wave and tidal and forms of geothermal energy. On a more horizontal level, several themes were identified that would also merit stronger focus. This concerned material research, dedicated small-scale/distributed generation initiatives, flexible fuel car fleets in the transport sector as well as waste heat utilisation schemes.

Most respondents considered the EU's current R&D policy only partially successful in promoting a broader technology portfolio. One of the key challenges identified was to further facilitate the step from basic research to deployment and commercialisation although the European Industrial Initiatives were acknowledged as step in the right direction. An even stronger coordination of national (and regional) research agendas and consolidation into a more strategic European approach was also frequently mentioned. Other perceived problems concerned a lack of funds or dedicated budget lines for certain research priorities as well as high administrative burden for participation in the EU's research programmes, in particular for industry. Finally, an improvement in communication efforts to disseminate the results was also considered necessary by some respondents.

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