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European Commission  
Directorate General Energy  
Unit A1 – Energy Policy  
Rue De Mot 24  
B-1049 Bruxelles  
Belgium

Our Ref: GS-000912

28 June 2013

Dear Sir/Madam,

Re: RES Response to Green Paper - A 2030 Framework for Climate and Energy Policies

RES is one of the world's leading renewable energy developers working across the globe to develop, construct and operate projects that contribute to our goal of a sustainable future. We have a portfolio of low-carbon energy technologies and a range of services which together can meet demand from the industrial, public and commercial sectors on whatever scale.

RES has been an established presence at the forefront of the wind energy industry for over three decades. Our core activity is the development, design, construction, financing and operation of wind farm projects worldwide. RES has developed or built almost 8GW of wind energy worldwide and we have several thousand megawatts under construction and in development, we continue to play a leading role in what is now the world's fastest growing energy sector. RES is also involved in the dedicated biomass, solar, offshore wind, wave and tidal sectors.

RES welcomes the opportunity to respond to the European Commission's (EC) Green Paper on a 2030 framework for climate and energy policies. We attach our response to the specific consultation questions and the key points to note in our response are outlined below:

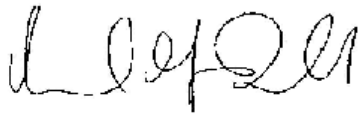
1. The stable 2020 framework has provided political momentum, long term visibility for investment and a benchmark for measuring progress. The targets of the 2020 framework have been a key tool for delivering renewable energy and have supported a stable investment environment. Legally binding targets are the best way to stem the rising political risk to renewables. The 2020 framework has resulted in an increase in renewable energy generation.
2. Greenhouse gas emission reduction, renewable energy and energy saving targets have worked and an approach based on binding targets should be replicated. We support the continuation of all three targets: greenhouse gas emissions, renewable energy and energy efficiency, as the integration of all three targets is mutually reinforcing and supportive.
3. Targets support the development of supply chains, skills, jobs and investor confidence but most importantly economic growth. A renewables target is necessary to ensure an increased share of renewables post 2020, to thereby contribute to more indigenous energy sources within the EU, to reduce energy import dependence and improve security of supply.

4. We support a legally binding renewable energy target alongside a greenhouse gas emissions target because achievement of a substantially de-carbonised electricity generation sector by 2030 is expected to come through a combination of renewables, new nuclear and carbon capture and storage. However, of these three technologies, only renewables has demonstrated that it can deliver. Only continuing a greenhouse gas emission target will not necessarily support the development of any renewable generation.

RES are grateful for the opportunity to comment and look forward to your response. We hope you take our comments on board and welcome any further contact in relation to this response.

Yours sincerely,

p.p.



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## QUESTIONS

### 1.1. General

#### **1. Which lessons from the 2020 framework and the present state of the EU energy system are most important when designing policies for 2030?**

The stable 2020 framework has provided political momentum, long term visibility for investment and a benchmark for measuring progress. The targets of the 2020 framework have been a key tool for delivering renewable energy and have supported a stable investment environment. Legally binding targets are the best way to stem the rising political risk to renewables. The 2020 framework has resulted in an increase in renewable energy generation. For example in the UK renewable electricity generation has increased from under 3% in 2001<sup>1</sup> to 11.3% in 2012<sup>2</sup> since the introduction of the 2001 Renewables Directive. Furthermore, the total renewable energy generation has increased from 2.4% in 2008 to 3.8% in 2011 since the introduction of the 2009 Renewable Energy Directive<sup>3</sup>. Additionally within the 27 EU countries the share of renewable energy in gross final energy consumption increased from 9.6% in 2008 to 13% in 2012<sup>4</sup>.

Greenhouse gas emission reduction, renewable energy and energy saving targets have worked and an approach based on binding targets should be replicated. However, the European Union Emissions Trading Scheme (EU ETS) is not currently providing a sufficient carbon price to support low-carbon investments in the power sector and should be adjusted. Therefore, the EC needs to persevere with its ambitions to adjust the EU ETS scheme to increase the price of carbon either by backloading or another structural measure which could provide a sustainable solution to the surplus in the longer term<sup>5</sup>.

A target is necessary to ensure an increased share of renewables post 2020, to thereby contribute to more indigenous energy sources within the EU, to reduce energy import dependence and improve security of supply. The more renewable energy generation there is within the EU the less need there is to import costly fossil fuels from potentially unstable areas of the world. There are both supply and cost risks from relying on energy imports from outside the EU. A recent report by Cambridge Econometrics for the UK market concluded that: "compared to a future power system more heavily dependent on gas, large-scale investment in offshore wind would impact positively on UK GDP and employment. GDP would increase by 0.8% by 2030 and there would be over 100,000 additional jobs by 2025, falling to 70,000 additional jobs by 2030 under a large-scale investment in offshore wind scenario. The development of offshore wind capacity would stimulate construction and manufacturing demand over the period to 2030"<sup>6</sup>.

Targets support the development of supply chains, skills, jobs and investor confidence but most importantly economic growth. A recent report undertaken in the UK, found "that in 2010/11, the UK renewables industry was worth £12.5 billion and supported 110,000 jobs, with 400,000 in total required to meet the 2020 renewables targets. The report also revealed that the overall increase in market value from 2009/10 to 2010/11 was 11% - outstripping economic growth over the same period (1.4%) by a factor of eight"<sup>7</sup>. Ed Davey the Secretary of State for Energy and Climate Change in the UK also recently stated in a speech that: "new research by my Department estimates that, since 2010, across the UK, over £29bn of private sector investment in renewables has been announced, supporting almost 30,000 jobs."<sup>8</sup>

<sup>1</sup> Page 52, Energy Trends, DECC, June 2012,

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/65908/5627-energy-trends-june-2012.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65908/5627-energy-trends-june-2012.pdf)

<sup>2</sup> Page 45, Energy Trends, DECC, March 2013,

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/170736/energy\\_trends\\_march\\_2013.PDF](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/170736/energy_trends_march_2013.PDF)

<sup>3</sup> Page 55, Energy Trends, DECC, June 2012,

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/65908/5627-energy-trends-june-2012.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65908/5627-energy-trends-june-2012.pdf)

<sup>4</sup> Eurostat, [http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=t2020\\_31&plugin=1](http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=t2020_31&plugin=1)

<sup>5</sup> European Commission, [http://ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm)

<sup>6</sup> A Study into the Economics of Gas and Offshore Wind, Cambridge Econometrics, November 2012,

[http://assets.wwf.org.uk/downloads/a\\_study\\_into\\_the\\_economics\\_of\\_gas\\_and\\_offshore\\_wind\\_nov2012.pdf](http://assets.wwf.org.uk/downloads/a_study_into_the_economics_of_gas_and_offshore_wind_nov2012.pdf)

<sup>7</sup> REA and Innovas, 23<sup>rd</sup> April 2012, <http://www.r-e-a.net/news/report-on-employment-and-skills-in-the-uk-renewable-energy-sector-to-be-launched-with-greg-barker>

<sup>8</sup> Ed Davey, DECC, 22<sup>nd</sup> May 2013, <https://www.gov.uk/government/speeches/edward-davey-address-to-the-all-energy-conference>

A recent EWEA report on the impact of wind energy on jobs and the economy concluded that “the wind energy industry increased its contribution to the EU’s gross domestic product (GDP) by 33% between 2007 and 2010. In 2010, the industry’s growth was twice that of the EU’s GDP overall, with the sector contributing €32 billion to an EU economy in slowdown”. The EWEA report also stated that “the sector created 30% more jobs from 2007 to 2010 to reach nearly 240,000, while EU unemployment rose by 9.6%. By 2020, there should be 520,000 jobs in the sector”<sup>9</sup>. This unrivalled growth is possibly because of the innovation and dynamism of the renewable energy sector supported by the investor confidence only possible from the political stability provided by clearly defined targets.

Targets to date have led to investments in R&D, innovation and large scale deployment in the sector, which have all contributed to reductions in the cost of renewable energy technologies. Stable and legally binding targets supported by stable regulatory frameworks for renewables enhance investor confidence and minimize the risk premium for financial investors. This is critical for capital intensive technologies such as wind energy; investments enabled by stable frameworks will also help drive down capital costs of technologies and thereby improve Europe’s competitiveness.

Long term targets have enabled quicker cost-reductions and reduced the need and level for support schemes or market incentives for renewables. For example in the UK, due to cost reductions in onshore wind the level of support provided to onshore wind generators from ROCs has been reduced from 1 ROC per MWh to 0.9 ROCs per MWh from April 2013<sup>10</sup>. The UK is also reducing the support level for offshore wind, “the Government has decided to set the level of support for offshore wind at 2 ROCs/MWh for new accreditations and additional capacity added in 2014/15, reducing to 1.9 ROCs/MWh for new accreditations and additional capacity added in 2015/16 and 1.8 ROCs/MWh for new accreditations and additional capacity added in 2016/17”<sup>11</sup>. Also the support levels for solar PV have decreased across the EU since 2010 as the cost of the technology has decreased. We must also stress that 2030 targets do not necessarily mean support for renewable energy technologies up to 2030 and that flexible, fit-for-purpose support mechanisms at national level will avoid over-compensation. Overall targets reduce the need for renewable energy support mechanisms. Cost reductions need economies of scale and that can only be achieved by developing a strong pipeline of projects within a clear and stable policy framework.

Furthermore, targets help develop the necessary wider infrastructure to support renewables, including interconnection and grid. Improvements to interconnection and grid support security of supply. Choosing a renewables pathway will also enable Europe to become more resilient to changes in energy markets and will clarify which electricity market and grid developments are needed to enable a 2030 framework. Renewable energy targets at the EU and Member State level will enable transmission system operators (TSOs) to plan appropriate grid infrastructure in a timely manner. For example, Sweden, Finland and Norway have substantial renewable energy generation compared to other EU countries. Therefore, a 2030 renewable energy target would support further interconnection between Nordpool and the rest of the EU, which will benefit the whole EU electricity system not just renewable energy generation. A Memorandum of

<sup>9</sup> Green Growth: The Impact of Wind Energy on jobs and the Economy, April 2012, EWEA, [http://www.ewea.org/fileadmin/files/library/publications/reports/Green\\_Growth.pdf](http://www.ewea.org/fileadmin/files/library/publications/reports/Green_Growth.pdf)

<sup>10</sup> Page 30, Government response to the consultation on proposals for the levels of banded support under the Renewables Obligation for the period 2013-17 and the Renewables Obligation Order 2012, DECC, July 2012, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/42852/5936-renewables-obligation-consultation-the-government.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42852/5936-renewables-obligation-consultation-the-government.pdf)

<sup>11</sup> Point 4.6, Page 33, Government response to the consultation on proposals for the levels of banded support under the Renewables Obligation for the period 2013-17 and the Renewables Obligation Order 2012, DECC, July 2012, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/42852/5936-renewables-obligation-consultation-the-government.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42852/5936-renewables-obligation-consultation-the-government.pdf)

Understanding has also recently been signed between the UK & Ireland to enable the trading of renewable energy from Ireland to the UK, a 2030 target would further support this and additional developments<sup>12</sup>.

Although, inflexibly set targets, set at a rounded level can be seen as arbitrary, targets should be firmly set in order to provide long term stability to the market. Including flexible mechanisms to reflect for example GDP changes will only increase complexity and remove certainty for market participants. All market participants would then be subjected to the adjustments impacting supply chains, skills, jobs and investor confidence but most importantly economic growth.

## 1.2. Targets

### ***2a. Which targets for 2030 would be most effective in driving the objectives of climate and energy policy?***

We support the continuation of all three targets: greenhouse gas emissions, renewable energy and energy efficiency, as the integration of all three targets is mutually reinforcing and supportive. Targets should be set based upon achieving the 2050 decarbonisation objectives with high levels of efficiency and renewables, mutually reinforcing target levels should be set for 2030. They should be definitively set by after the completion of a comprehensive impact assessment.

Much of Europe, has ageing energy assets which need to be replaced and this provides a major opportunity to shape investment towards a low-carbon transformation. In particular we support a legally binding 2030 renewable energy target. A 2030 target will avoid a cliff edge in 2020 and will motivate support and promote achievement of the 2020 targets. 2030 targets are needed to tackle climate change and to help deliver the EU's goal of limiting global temperature rise to 2 degrees<sup>13</sup>. The science is clear that greenhouse gas emissions must be cut dramatically to limit the effect of climate change. However, carbon dioxide concentrations have recently breached 400ppm. Our support for the continuation of all three targets is in line with the French Government, Delphine Batho, Minister of Ecology, Sustainable Development and Energy, who has said that France wants to see the EU set a triple objective for 2030, covering climate, renewables, and efficiency. We welcome the UK government's calls for a greenhouse gas emissions target of 50% by 2030<sup>14</sup>, however, we disagree with their conclusion that an additional renewable generation target is not required. A renewable energy target is needed in addition to a greenhouse gas emissions reduction target as only having the EU ETS is proving increasingly unlikely to provide a sufficient carbon price to support renewables throughout Europe. Furthermore, having only one decarbonisation target will not lead to diversity in energy supply, it will favour more mature technologies.

A 2030 renewables target would provide the benefits outlined in response to question 1 above, including supply chains, skills, jobs, interconnection, grid development, investor confidence and economic growth. A renewables target will go beyond a blanket emissions target and is imperative to continue the development of renewable energy. Only continuing a greenhouse gas emission target will not necessarily support the development of any renewable generation. Targets provide a material planning consideration in support of consenting renewable energy projects. Less renewable energy generation will be developed without a renewable energy target, in particular in the UK it will be harder for projects to get through the UK planning system, this is particularly pertinent for onshore wind.

We support a renewable energy target alongside a greenhouse gas emissions target because achievement of a substantially de-carbonised electricity generation sector by 2030 is expected to come through a combination of renewables, new nuclear and carbon capture and storage. However, of these three

<sup>12</sup> DECC, 23<sup>rd</sup> January 2013, <https://www.gov.uk/government/news/energy-trading-creates-opportunities-for-ireland-uk-davey-rabbitte>

<sup>13</sup> <http://www.ourclimate.eu/ourclimate/euclimatepolicy.aspx>

<sup>14</sup> DECC, 4<sup>th</sup> June 2013, <https://www.gov.uk/government/speeches/written-ministerial-statement-by-edward-davey-uk-negotiating-position-on-the-eu-2030-climate-and-energy-framework>

technologies, only renewables has demonstrated that it can deliver. New nuclear is of uncertain cost and timescales and CCS is largely unproven at industrial scale. Whilst this could be seen to present an advantage to renewables, in reality, without a strong message that renewables are a key part of the future energy mix, the sector will not be able to make the investment that is needed to deliver at a large scale and to bring about further reductions in cost. The net result of which will be that, if those technologies which are currently less certain do not deliver (new nuclear and CCS), then renewables will not be in a position to take up the shortfall.

***2b. At what level should they apply (EU, Member States, or sectoral), and to what extent should they be legally binding?***

Targets should be set nationally within wider EU targets, the 2020 framework should be replicated for 2030. The 2020 framework recognised Member States' different energy mixes, economic wealth and capacity to act and therefore included mechanisms to ensure a fair distribution of effort between them. As discussed in response to question 1 above, binding targets have worked and an approach based on binding targets should be replicated.

***3. Have there been inconsistencies in the current 2020 targets and if so how can the coherence of potential 2030 targets be better ensured?***

Renewable targets and greenhouse gas emissions targets are complementary, not inconsistent and as such should be continued. The 20% Renewable Energy Sources target is already accounted for in the setting of the ETS cap and the target set for 2030 should also do so. The continuation of all three targets will align energy direction and political alignment both at the Member State and European level. For example if only a greenhouse gas target is set, national renewables support schemes and targets could interfere with the carbon price because the equivalent in emissions reductions would not have been forecasted or foreseen. Therefore, the 2030 energy efficiency and renewable energy targets should therefore be set first, and the greenhouse gas emissions target should take their emissions into account for mutual reinforcement.

***4. Are targets for sub-sectors such as transport, agriculture, industry appropriate and, if so, which ones? For example, is a renewables target necessary for transport, given the targets for CO<sub>2</sub> reductions for passenger cars and light commercial vehicles?***

The renewable energy target should remain a renewable energy target (and not by sector) to provide Member States with the necessary flexibility to decide on their energy mix. It should be left to the Member State to decide on their sector breakdown.

***5. How can targets reflect better the economic viability and the changing degree of maturity of technologies in the 2030 framework?***

Targets should not be confused with support mechanisms, as discussed in response to question 1 above, long term targets have enabled quicker cost-reductions and reduced the need and level for support schemes or market incentives for renewables.

***6. How should progress be assessed for other aspects of EU energy policy, such as security of supply, which may not be captured by the headline targets?***

Increased deployment of renewables improves security of supply, as discussed in response to question 1 above, as does energy efficiency targets, they will both reduce the EU's reliance on energy sources from outside of the EU from potentially unstable parts of the world. The additional benefit of security of supply,



particularly the macroeconomic benefit should be considered in the analysis and impact assessments for introducing these three targets.

### 1.3. Instruments

#### ***7. Are changes necessary to other policy instruments and how they interact with one another, including between the EU and national levels?***

Members States already have the ability to meet their renewable energy target through a flexibility mechanism agreed with another Member State, either through a: statistical transfer, joint project or joint support scheme. For example Sweden and Norway has operated a successful joint support scheme since January 2012. We support the utilisation of these schemes if they increase the development of renewable energy capacity and welcome increased interconnection. Furthermore, the alignment of energy markets under the EU Target Model will enhance the potential for renewable energy flexibility mechanism. However, the flexibility mechanism should not undermine renewable energy developments in the procuring Member State as this will impact the development of supply chains, skills, jobs and investor confidence in that Member State. Flexibility mechanisms should provide a benefit to both Member States, as the bill payers of the procuring Member State will ultimately have to fund the renewable power generated by the other.

#### ***8. How should specific measures at the EU and national level best be defined to optimise cost-efficiency of meeting climate and energy objectives?***

The continuation of all three energy targets will provide a sufficient EU framework to optimise cost-efficient achievement of climate and energy objectives. Specific renewable energy support, energy efficiency and greenhouse gas reduction schemes should be set at the Member State level. Support schemes should be set at a national level by Member States to reflect the different potential of different renewable energy technologies, national markets and their features (including grid connection, administrative and capital costs). However, as discussed in response to question 7 above, Member States should maintain the ability to operate a joint mechanism when suitable.

Also, as outlined in response to question 1, long term targets have enabled quicker cost-reductions and reduced the need and level for support schemes or market incentives for renewables. Thereby, enabling cost-efficient achievement of the EU climate and energy objectives. Long term targets drive political support which leads to stable legal frameworks. For example no retrospective changes to support mechanism or legal frameworks should ever be made. Uncertainty brought about by changes to a support mechanism in one Member State has a knock on impact on the certainty and investment opportunity in other EU Member States. Stable legal frameworks are imperative to keeping the cost of capital down and thus supporting the deployment of renewables cost-effectively.

#### ***9. How can fragmentation of the internal energy market best be avoided particularly in relation to the need to encourage and mobilise investment?***

Setting the same overall targets at the EU level will align direction and help avoid fragmentation. Furthermore, the introduction of the EU Target Model will align EU energy markets more than ever before. However, when considering fragmentation of the internal energy market, the ability of different technologies to access the market needs to also be considered, in particular the ability of renewable energy generation to access markets. Renewable energy, in particular intermittent renewable energy needs to be better integrated into energy markets.

The accuracy of forecasted generation output can improve significantly between the day-ahead markets and real time and opportunities for renewable generators to trade closer to real time will significantly improve the

utilisation of renewable energy. For example the current GB electricity market is structurally biased against renewables and was not designed with the necessary levels of renewable energy deployment in mind. This was acknowledged by Ofgem in a recent consultation: “the existing trading arrangements, dating back to the NETA implementation in 2001, were not designed primarily with the integration of renewables in mind”<sup>15</sup>. Furthermore, Ofgem’s reforms to the electricity balancing mechanism are actually seeking to sharpen imbalance pricing, further penalising intermittent renewable energy generation.

**10. Which measures could be envisaged to make further energy savings most cost-effectively?**

We support demand reduction as a cost effective way to reduce energy costs for consumers, cut carbon emissions and meet carbon targets. The continuation of the energy saving target will drive energy efficiency. An energy saving target will promote mechanisms to improve energy savings, for example through the development of more energy efficient products and through more efficient operation of energy systems through smart metering and smart grids. Energy savings can also be made more cost-effective through enhanced balancing of electricity systems by Member States.

**11. How can EU research and innovation policies best support the achievement of the 2030 framework?**

An ambitious 2030 renewable energy target will be a key driver for R&D, innovation support and demonstration projects in renewable energy, in particular emerging technologies such as wave and tidal. However, alongside the targets, post 2020 research and innovation policies at EU and Member State level will also be needed together with dedicated financial mechanisms to support emerging technologies.

**1.4. Competitiveness and security of supply**

**12. Which elements of the framework for climate and energy policies could be strengthened to better promote job creation, growth and competitiveness?**

As discussed in response to question 1 above, the 2020 framework has promoted job creation, growth and competitiveness. Setting equally ambitious but achievable targets for 2030 will further support job creation, growth and competitiveness. The continuation of all three targets: greenhouse gas emission reduction, renewable energy and energy saving is needed. Without the continuation of targets beyond 2020, there remains a cliff edge in 2020 which will be felt before and impact the meeting of the existing 2020 targets. The existing framework promotes job creation, growth and competitiveness as concluded in the EWEA report on the impact of wind energy on jobs and the economy, “by 2020, there should be 520,000 jobs in the sector, the sector was a net exporter of €5.7 billion worth of goods and services in 2010”<sup>16</sup>.

**13. What evidence is there for carbon leakage under the current framework and can this be quantified? How could this problem be addressed in the 2030 framework?**

The EU should use the 2030 framework to encourage and help develop similar frameworks with other nations to reduce carbon leakage. As discussed in response to question 15 below.

**14. What are the specific drivers in observed trends in energy costs and to what extent can the EU influence them?**

<sup>15</sup> Update on the Electricity Balancing Significant Code Review (EBSCR) and request for comments on proposed new process to review future trading arrangements, Ofgem, 18<sup>th</sup> February 2013, [http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=Update on EBSCR and new process to review Future Trading Arrangements.pdf&refer=Markets/WhlMkts/CompandEff/electricity-balancing-scr](http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=Update%20on%20EBSCR%20and%20new%20process%20to%20review%20Future%20Trading%20Arrangements.pdf&refer=Markets/WhlMkts/CompandEff/electricity-balancing-scr)

<sup>16</sup> Green Growth: The Impact of Wind Energy on jobs and the Economy, April 2012, EWEA, [http://www.ewea.org/fileadmin/files/library/publications/reports/Green\\_Growth.pdf](http://www.ewea.org/fileadmin/files/library/publications/reports/Green_Growth.pdf)



The drivers of energy costs will continue to be based on supply and demand. Due to economic decline and therefore demand in the EU in 2008 there was a decline in energy costs. However, this short term decline was short lived; a recent report from the Committee on Climate Change in the UK concluded that international increases in the price of gas since 2004 has lead to an increase in household energy bills in the UK of 62%<sup>17</sup>.

Furthermore, imported gas to the EU accounts for the majority of gas consumption in the EU<sup>18</sup>. If the EU relies less on imported fossil fuels, it can also become more resilient to world trends in energy costs. Renewables can insulate the EU against the volatility of fossil fuel prices, which remain the main determinants of energy prices increases in most EU Member States. The merit order effect of renewables should be taken into account as increased renewables penetration reduces wholesale electricity market prices. A number of studies have been carried out on this issue and formed a consistent conclusion that increasing wind generation reduces electricity prices.

A study by Eirgrid into the Irish Market, illustrated the impact of wind on lowering electricity prices in Ireland outweighed the cost of subsidies in 2011<sup>19</sup>. Another study by University of Seville, summarises the findings of other academic studies that examined the effect of wind penetration on electricity prices in six different European countries and one US state. These studies demonstrate a reduction in price of between €2 and €33/MWh<sup>20</sup>. Additionally, a report by the EWEA, explains how wind reduces power prices through the merit-order effect in multiple countries studied. The EWEA cite six studies from Germany and Belgium that show a reported reduction in price of between €3 and €23/MWh. This EWEA report also cites a study completed by Risø, the Danish Laboratory for Sustainable Energy that demonstrates the relationship between lower spot power prices and increased wind production in Denmark. They also demonstrate the impact of wind power on decreasing consumer prices. They conclude that from 2004-2007 the cost of electricity for consumer would have been approximately 4-12% higher in Denmark if wind power had not contributed to power production<sup>21</sup>.

The EU can further insulate itself from rising fossil fuel prices by being a leader in renewable energy. Without a global climate change agreement, fossil fuel prices will continue to increase; an ambitious 2030 framework including (efficiency and) renewables targets is therefore the best way to hedge against this. For example wind and solar energy can be more expensive than fossil fuels in install up front but once installed the operating costs are low, predictable and stable.

As discussed in response to question 10 above, improved energy efficiency will reduce energy costs and promote energy efficiency innovation. An energy saving target will promote mechanisms to improve energy savings, for example through the development of more energy efficient products and through more efficient operation of energy systems through smart metering and smart grids.

***15. How should uncertainty about efforts and the level of commitments that other developed countries and economically important developing nations will make in the on-going international negotiations be taken into account?***

<sup>17</sup> Page 5, Energy prices and bills – impacts of meeting carbon budgets, Committee on Climate Change, December 2012, [http://www.theccc.org.uk/wp-content/uploads/2012/12/1672\\_CCC\\_Energy-Bills\\_bookmarked.pdf](http://www.theccc.org.uk/wp-content/uploads/2012/12/1672_CCC_Energy-Bills_bookmarked.pdf)

<sup>18</sup> Figure 1, Quarterly report on European Gas Markets Q1 2013, European Commission, [http://ec.europa.eu/energy/observatory/gas/doc/20130611\\_q1\\_quarterly\\_report\\_on\\_european\\_gas\\_markets.pdf](http://ec.europa.eu/energy/observatory/gas/doc/20130611_q1_quarterly_report_on_european_gas_markets.pdf)

<sup>19</sup> Impact of Wind Generation on Wholesale Electricity Costs in 2011, Eirgrid, February 2011 <http://www.eirgrid.com/media/ImpactofWind.pdf>

<sup>20</sup> Large-scale wind power integration and wholesale electricity trading benefits: Estimation via an ex post approach, 2011, <http://www.sciencedirect.com/science/article/pii/S0301421511009657>

<sup>21</sup> The European Wind Energy Association, Wind Energy and Electricity Prices: Exploring the 'merit order effect', April 2010, [http://www.ewea.org/fileadmin/ewea\\_documents/documents/publications/reports/MeritOrder.pdf](http://www.ewea.org/fileadmin/ewea_documents/documents/publications/reports/MeritOrder.pdf)

Developments in other nations should be welcomed and encouraged, EU should set a replicable example of a greenhouse gas emission reduction and increased use of renewables. The EU should also provide advice and guidance to other nations. A report on the global status of renewables by the Renewable Energy Policy Network for the 21<sup>st</sup> Century (REN21) stated that “policy targets for the increased deployment of renewable energy technologies have been identified in at least 138 countries as of early 2013, up from the 118 countries reported in the global status report 2012”<sup>22</sup>. Other nations are working towards a similar goal for example Australia is rumoured to be approaching 22% of generation from renewables by 2020 and 51% by 2050. Australia’s carbon tax is double the cost of the EU and the potential to linking of Australia to the EU ETS should be strongly encouraged. China has also recently announced that they plan to set a cap on greenhouse gas emissions by 2016. The US has also announced a national climate action plan which includes plans for an expansion of renewable energy projects and reducing carbon emissions. This improves the prospects for a strong international treaty being agreed at the United Nations climate change summit in 2015.

***16. How to increase regulatory certainty for business while building in flexibility to adapt to changing circumstances (e.g. progress in international climate negotiations and changes in energy markets)?***

As discussed in response to question 1, targets should be firmly set in order to provide long term stability to the market. The 2030 framework should be stable and firm; this will provide certainty for businesses. If targets are set in an appropriately challenging yet achievable way then they should not need the flexibility to adapt. The uncertainty brought about by the flexibility could harm the overall framework.

Furthermore, as discussed in response to question 14 above, if the EU relies less on imported fossil fuels, it can also become more resilient to world trends in energy costs. This will provide more certainty on energy costs to EU businesses.

***17. How can the EU increase the innovation capacity of manufacturing industry? Is there a role for the revenues from the auctioning of allowances?***

Setting ambitious 2030 targets will indicate a clear direction to the manufacturing industry and supply chains in the EU. Clearly set targets will encourage innovation and adaptation.

***18. How can the EU best exploit the development of indigenous conventional and unconventional energy sources within the EU to contribute to reduced energy prices and import dependency?***

The EU should introduce a legally binding 2030 renewable energy target, this will enable investment in the renewable indigenous resources and technologies in which it already has a competitive advantage. One such technology in which the EU has an indigenous resource, technological and therefore competitive advantage is onshore and offshore wind power.

As discussed in response to question 14 above, if the EU relies less on imported fossil fuels, it can also become more resilient to world trends in energy costs.

***19. How can the EU best improve security of energy supply internally by ensuring the full and effective functioning of the internal energy market (e.g. through the development of necessary interconnections), and externally by diversifying energy supply routes?***

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<sup>22</sup> Page 69, RES21 Annual Report 2013, [http://www.ren21.net/Portals/0/documents/Resources/GSR/2013/GSR2013\\_lowres.pdf](http://www.ren21.net/Portals/0/documents/Resources/GSR/2013/GSR2013_lowres.pdf)

As discussed in response to question 1 above, successful implementation of the EU Target Model will improve the security of energy supply in the EU. Furthermore, the EU Target Model and clear 2030 targets will encourage more interconnection and successful utilisation and operation of cross border capability. Grid infrastructure is important to improving security of supply within the EU and sufficient investment is necessary in infrastructure and grid to ensure the most cost-effective integration of the 2030 energy mix.

As discussed in response to question 9 above, security of supply can be improved by improving the access to market for all forms of generation, for example enabling intermittent renewable energy generation to trade closer to real time.

#### **1.5. Capacity and distributional aspects**

##### ***20. How should the new framework ensure an equitable distribution of effort among Member States? What concrete steps can be taken to reflect their different abilities to implement climate and energy measures?***

As discussed in response to question 2b above, the 2020 framework recognised Member States' different energy mixes, economic wealth and capacity to act and therefore included mechanisms to ensure a fair distribution of effort between them. The distribution of the 2030 renewables targets should recognise the same criteria.

##### ***21. What mechanisms can be envisaged to promote cooperation and a fair effort sharing between Member States whilst seeking the most cost-effective delivery of new climate and energy objectives?***

As discussed in response to question 7 above, we support the utilisation of flexibility mechanism if they increase the development of renewable energy capacity and welcome increased interconnection. Use of flexibility mechanism should encourage cost-effective effort sharing. However, this should not undermine renewable energy developments in the procuring Member State as this will impact the development of supply chains, skills, jobs and investor confidence in that Member State.

##### ***22. Are new financing instruments or arrangements required to support the new 2030 framework?***

Political and regulatory stability is key to decreasing capital costs, firm and stable targets will enable this. Stable long-term legislative frameworks are necessary for the finance community to invest sufficient volumes at an appropriate cost.

The Green Investment Bank<sup>23</sup> has recently been introduced in GB and is providing a good mechanism to unlocking capital for renewable energy and energy efficiency investments in GB. This could be a good example which could be replicated across the rest of the EU. The European Investment Bank<sup>24</sup> has sustainable energy as one of its priority areas for investment and this should be continued under a 2030 framework.

<sup>23</sup> <http://www.greeninvestmentbank.com/>

<sup>24</sup> <http://www.eib.org/>