

European Commission's Green Paper: A 2030 framework for climate and energy policies

RenewableUK response

Introduction

RenewableUK is the UK's leading trade association in the field of renewable energy, representing over 650 companies in the wind, wave and tidal stream sectors. Together, these technologies will provide the bulk of the renewable electricity the UK will need to meet the 2020 targets and through to 2050, and are the motors of new industrial growth, providing thousands of new jobs and significant export revenue in the UK and throughout the EU.

The Commission should note that RenewableUK is a member of EWEA and in general we support their submission to this consultation. We hope to add further perspective from the UK in this submission, however.

Our position

Our overall position is that the 2020 legally binding Renewable Energy (RE) targets have been a success. They have promoted innovation, provided long term visibility for investment and a benchmark for measuring progress. This has resulted in cost reduction with the most mature technologies such as Onshore Wind and Solar PV reaching grid parity on the best sites. This points to the potential decoupling of targets and support mechanisms after 2020, and to an increase in emphasis on enabling measures in driving the deployment of renewables rather than financial support.

We believe 2030 binding RE targets are essential to consolidate these successes and further spur innovation in less mature renewable technologies such as Offshore Wind. Such targets are a necessary stepping stone to the objectives of both the UK and the EU for carbon reduction in 2050. Today we are already seeing the effect that absence of 2030 targets is creating in the UK, with the policy uncertainty beyond 2020 now being referred to as a 'cliff edge' by developers and investors.

In addition, we would highlight the risks of taking a 'carbon-only' approach to post-2020 policy. Using only a single instrument could result in cheaper low-carbon options being over-rewarded since the carbon price is set by the most expensive marginal unit of reduction. More targeted, declining support for developing technologies carries less risk of providing windfall profits to more mature options. We do see the requirement for a robust carbon pricing system, but this should be seen as the means of ensuring the continued roll-out in the future of mature technologies such as onshore wind.

We cannot emphasise enough how this threat comes at the critical moment in the development of the European Renewable Energy Industry, and more specifically the Wind Energy Industry. Policy makers cannot forget that our industries compete on the global market, against US and Chinese companies, whilst RE technologies also compete for investment against all other forms of infrastructure.

Finally, the absence of a 2030 RE target would undermine our overall decarbonisation efforts; to put it simply, less RE generation will be built without the political certainty that these targets offer.

Key principles underpinning our thinking

We believe tackling Climate Change can most effectively be done at the international level, a view that we share with the majority of European citizens¹. We therefore strongly support the role of European legislation in creating legally binding energy and climate change agreements for 2030 as a stepping stone to reaching our 2050 decarbonisation targets.

In 2006, Fenner et al.² developed a framework for the sustainability assessment of large infrastructure projects. This work highlights key conditions that are need for the delivery of large sustainable infrastructure projects amongst which are the need for a strong ethical foundation with a vision of the future set out in clear and ambitious targets. Targets provide direction and a clear metric for measuring progress and producing continuous improvement and fostering innovation, and we firmly support this view.

Finally, we firmly support the EU and UK energy policy goals of delivering a secure, decarbonised energy grid at least cost with maximum benefits to society. Wind energy is an indigenous, free resource and, as long as the financing can be secured for projects, it is a low-cost zero carbon technology with huge development potential. Furthermore, Europe has the world's leading onshore and offshore wind energy industry which has become, and promises to continue to be, a major driver for growth and employment over the next half a century.

General

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

We have been strong supporters of the 2020 framework and believe that GHG reduction targets supported by RE and Energy Efficiency Targets have been positive drivers for climate change mitigation around the world. We support the Commission's ambitions to learn from our successes and mistakes.

Setting EU wide legally binding obligations has been an important driver in ensuring all political parties within governments pursue ambitious decarbonisation policies. For instance, in the UK, the new Energy Bill is enjoying cross party support in Parliament.

The recent collapse of the EU ETS has been unfortunate, but it does provide three valuable lessons:

1. In the global economy the impacts of unforeseeable, and sometimes foreseeable, events is difficult to anticipate and innovative policies can fail.
2. Political and public support is sensitive and easily affected by these events beyond our control. Policy needs to be dynamic or include mechanisms to allow responses to changes in the market. This requires agreed targets, or, in the case of carbon trading, trajectories against which progress can be measured and clear transparent remedial actions can be taken.
3. The pursuit of multiple simultaneous decarbonisation strategies increases the 'resilience' of our decarbonisation efforts. Hence, despite the failure of the EU ETS and ongoing uncertain support for it, deployment of RE technologies and Energy Efficiency measures, and consequently our decarbonisation targets, are currently still on trajectory to meet the 2020 targets.

This leads us to the success of 2020 RE targets. This policy has single handedly fostered tremendous innovation of technology, business models and policies. The consequence of this

¹ European Parliament Eurobarometer (standard EB 74.3 on Energy) – The Europeans and energy, http://ec.europa.eu/energy/studies/doc/20110131_eurobarometer_energy.pdf, 2011

² Widening engineering horizons: addressing the complexity of sustainable development, Dr. R.A. Fenner, C.M. Ainger, Dr. H.J. Cruickshank, and Prof. P.M. Guthrie, http://event.conceptglobal.com/accounts/register123/concept/clientaccounts/ice/events/wideningenghorizons/Widening_Engineering_Horizons_-_Addressing_the_Complexity_of_Sustainable_Development.pdf, 2006

varied landscape of experiments has been the successful deployment of RE technologies, including consequent cost reductions to the first generation of these technologies, namely Onshore Wind and Solar PV.

The lack of prescriptive policies, allowing member states to investigate multiple options for the promotion of RE, in line with local constraints and the relative importance of the energy policy goals of affordability, security of supply and decarbonisation has been one of the reasons for success. Unavoidably with the variety of policy experiments we have also made mistakes.

Recently the RE industry has suffered setbacks. Abrupt changes to support mechanisms, including retroactive changes, have seriously undermined investor confidence. It is essential that all levels of policy making provide investor security whilst protecting consumers from excessive costs, and the EC should investigate how it can help Member States learn from these mistakes.

The 2020 successes and failures provide an important benchmark for the development of 2030 policies. There is, however, a danger in trying to blindly replicate the approach without acknowledging changing circumstances. One of the major challenges facing the creation of the European Internal Electricity Market (IEM) will be how to fairly trade electricity benefiting from local support schemes across borders. New EC policy must pave the way towards a solution.

The final lesson we are actively learning through this consultation is the effect of 'Policy Lumpiness'. The current policy time horizon to 2020, with no visibility post this date, has become a barrier to investment. In the UK 2020 is being described as a 'cliff edge' and the lack of existence of a clear target is now threatening industrial development.

The European Union has been an incubator for affordable wind and solar technologies which are now facilitating significant carbon reduction around the globe. One of our greatest failures has been the loss of our world leading solar industry to China. We are however still leading the global wind energy industry, onshore and offshore, and we must foster continued growth of these industries that have created and support hundreds of thousands of jobs in the European Union through the use of 2030 RE targets.

Targets

Which targets for 2030 would be most effective in driving the objectives of climate and energy policy? At what level should they apply (EU, Member States, or sectorial), and to what extent should they be legally binding?

RenewableUK agrees that a successful carbon trading scheme is the most appropriate long term solution for pursuing least cost decarbonisation. We therefore encourage further development of the EU ETS. We feel that policies that will provide greater certainty around the carbon price trajectory would create a more investment friendly environment and a performance benchmark that could be used for monitoring and continuous improvement.

As long as an effective method of pricing carbon is not in place, and that carbon is not priced at an appropriately high level (reflecting the true price of this externality), we must pursue multiple decarbonisation strategies.

Since it is highly unlikely that these conditions are met before 2030, we strongly believe that a package approach of legally binding GHG Emissions Reduction, RE and Energy Efficiency targets is essential. In addition to the added resilience that multiple targets provide, a recent study carried out by Imperial College London³ demonstrates targets are a cost effective way of delivering decarbonisation. A recent study from the Committee on Climate Change⁴ (CCC) validate these findings in the UK context, suggesting that ambitious targets to 2030 could save £25-45bn rising to £100bn with high gas and carbon prices in the UK alone. Further evidence can

³ "On Picking Winners", Imperial College London, Oct 2012
http://assets.wwf.org.uk/downloads/on_picking_winners_oct_2012.pdf

⁴ "Next steps on Electricity Market Reform – securing the benefits of low-carbon investment", Committee on Climate Change, May 2013 http://www.theccc.org.uk/wp-content/uploads/2013/05/1720_EMR_report_web.pdf

be gleaned from recent work by E3G that highlighted the potential downside risk of relying on carbon-only support as opposed to specific technology support measures⁵.

The primary argument is that long-term legally binding targets attract lower cost investment, creating investment in infrastructure which in itself creates lock-in further driving down the risk of policy changes and therefore the cost of finance, effectively producing a 'virtuous cycle'. The Imperial College report also highlights the facilitating role of RE targets in the Carbon Price creation process; In short, developing cost effective alternatives increases the acceptability of Carbon Pricing to society.

We also support effort sharing targets that respect national circumstances and seek to address particular weaknesses in Member States or capture specific renewable resources.

In addition to these headline targets, we feel a number of facilitating targets could also be investigated in a 2030 framework; namely for the removal of fossil fuel supports, electricity infrastructure, non-generating balancing technologies and system adequacy. These are discussed in more depth below.

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

The primary inconsistencies in 2020 targets are the continued supports for unabated fossil fuels and associated infrastructure. Support for these resources and technologies are spurred primarily by concerns of security of supply, and the premise that substitution of coal power by gas reduces GHG emissions sufficiently to meet our interim targets.

Support for fossil fuels damages our carbon pricing efforts, distorting price signals. In the long term, these subsidies also decrease the resilience of the EU energy market to price shocks, as well as our energy independence.

RenewableUK therefore believes that targets should be set at European level for the removal of fossil fuel supports. In the long term any support system associated with fossil fuel generation must have a very clear link to decarbonisation. We also encourage the divestment of public funds from investments associated with fossil fuels, this has the potential of releasing much needed funds for zero carbon technologies and the facilitating infrastructure.

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 CO2 reductions for passenger cars and light commercial vehicles?

Achieving the vision of sustainable future, in our given timeline, requires disruptive innovation. As a trade association for wind, wave and tidal stream technologies we cannot comment in detail on other sub-sectors, but the promotion of disruptive RE generation technologies must be at the forefront of any climate change policy.

The current EU 2050 Pathway highlights the important contribution of RE in the mix and within this the consequent amount of variable renewable energy sources. A number of additional facilitating targets are needed to support this transition. These facilitating targets are also essential if we want to achieve the most cost effective development of RE technologies whilst guaranteeing Security of Supply.

Investment in the order of €1trillion is needed for energy infrastructure up to 2020 alone. This investment is seen as essential to the IEM as well as to facilitate the cost-effective integration of renewable resources. The Energy Infrastructure Package 2020 therefore needs to be updated to 2030. We also feel that the need for anticipatory investment has become critical. For instance in the development of a meshed North Sea Offshore Grid. This can be justified on two levels, the first is to help bring to market new European HVDC offshore technology, and the second is seeking a lock-in effect that will de-risk investment in offshore wind, further driving costs down.

⁵ Risk managing power sector decarbonisation in the UK: Avoiding the risks of a new "Dash for Gas", Pelin Zorlu, Simon Skillings, Nick Mabey, and Chris Littlecott, October 2012
http://www.e3g.org/images/uploads/E3G_Risk_managing_power_sector_decarbonisation_in_the_UK_-_Briefing_paper.pdf

The international nature of many of the network bottlenecks, needed new capacity in cross-border transmission and their impact on the affordability and security of supply, clearly highlights the important role the EC has as a facilitator in this area and therefore justifies more involvement.

One of the cost optimisation principles of a fully integrated IEM is through shared security of supply services and the consequent postponement or avoidance of investment in new generation capacity; many of these benefits are highlighted in the EU Roadmap 2050. Today, the UK government does not appear to be convinced that increased interconnection to Central Western Europe will deliver these benefits, primarily because of doubts about the medium term System Adequacy of a number of these Member States, including France. This justifies European level coordination to define solutions to this issue, including a common metric for measurement.

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

The economic viability of technologies are not just defined by their maturity but also the global context, such as the growing efforts of the US and China in the realm of GHG emission reductions.

We believe that the current approach of two CO₂ targets, a minimum legally binding internal target, and a more ambitious aspirational target conditional to a global agreement is an idea that should be further developed. This balances the need to create investor certainty with policy flexibility.

An important distinction must also be highlighted between European Targets for RE and member state support mechanisms for RE. One does not necessarily entail the other. It is more important for support mechanisms to be able to adapt to market trends. Targets should be set on long term trends and based on an ethically grounded realistic vision of the future.

The responsiveness of support mechanisms to changes in the market, or rather the lack thereof, are a known failure and it is imperative that lessons are learnt and disseminated. Without aiming for prescriptive regulation (we strongly support the ability of member states to define the most appropriate national policy) the EC must investigate, through public consultation, on how to encourage better support systems that are designed to account for dynamic market conditions without threatening investor confidence.

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?

Most commonly, the term 'security of supply' is used in relation to access to resources and is mainly associated with access to fossil fuel imports. Under this definition we believe that aspirational targets for the amount of electricity supplied from indigenous resources could be a valid metric. Again, we must highlight the need for consistency with our ultimate decarbonisation aims, and therefore the parallel between an indigenous energy target and the RE target.

Progress in system stability and system adequacy issues cannot however be measured using any of the proposed headline targets. Measuring progress in these areas is however of great importance and a clear solution must be developed which is part of the reason that we are suggesting a System Adequacy target is considered, again, we must caution against calculating this on a nation by nation basis but rather by considering the European Network as a whole and allocating this in a fair and proportional manner.

Instruments

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

The wind energy industry is committed to reducing costs to provide customers with affordable green energy whilst maintaining a world class industry that employs hundreds of thousands of Europeans. Achieving this requires attracting the necessary investment to support the development and expansion of the industry in Europe and abroad.

Within Europe instruments such as long term legally binding RE targets are essential for investor confidence however more needs to be done. Currently much of the finance supporting capital investment is corporate and corporate refinancing facilities are essential.

The investment community has also highlighted a need to amend financial regulations (Basel 3 and Insolvency 2) in order to release further investment.

The Wind Energy industry consistently spends over 5% of its turnover on R&D, an indication of a buoyant industry that is still driving down cost. Additional instruments to support this Research & Development are therefore justified and essential.

We also strongly encourage policy instruments that aim at facilitating grid development, priority grid access and well-functioning markets. An interconnected European Network is a prerequisite to the IEM and for the integration of renewable resources, and therefore to the affordable, secure decarbonisation of the European energy sector. Many cross-border interconnector projects encounter significant obstacles starting with planning. In addition to extending financial instruments, such as the 'Connecting Europe Facility', the European Commission should envisage an instrument to help undertake anticipatory Strategic Environmental Assessments of future priority cross-border projects in order to identify satisfactory options well in advance of delivery targets.

Instruments should also be investigated to encourage and facilitate joint projects under the cooperation mechanisms. The international nature of these projects could for instance justify support through guarantee schemes.

Finally, demand for wind energy is growing around the globe. Maintaining a buoyant European industry needs instruments to support export opportunities that go beyond national instruments.

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

Member State collaboration in meeting obligations under any 2030 package through joint action would promote cost-efficiency in exploiting some resources. The Commission should actively promote and sponsor such joint action given the strategic importance to Europe of, for instance, the offshore wind resource in the North Sea.

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

Fragmentation of the IEM is led by fears of security of supply and incompatible support and regulatory policies.

Specific targets for Energy Infrastructure and System Adequacy will go a long way to addressing these security of supply concerns. These must also be accompanied by a number of changes in the market and we generally support the IEM trajectory put forward by the Commission.

Finally, increased public scrutiny is needed of the ENTSO-E and ACER to ensure that regulatory proposals reflect the interests of the public and wider energy industry.

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

R&D is essential to the innovation process from technology discovery through to market validation.

The need for R&D is relatively well understood as is the need for public support of these processes. R&D is also essential for growth and job creation in all industries and this is even more true for innovative technologies such as in the RE sector.

In the current economic downturn, many member states are failing to reach their voluntary 3% R&D targets. The various EU research and innovation programmes have therefore been essential in supplementing national and corporate financing of R&D and as projects increase in scale and breach new ground, such as is the case for offshore wind energy, additional funding for demonstration and market validation is absolutely essential. We therefore strongly encourage all EU programmes to be extended post-2020.

As we move forward in our decarbonisation efforts, increases in the funding of R&DD of enabling technologies such as offshore grid technologies, storage, DSR, etc. are becoming more critical and should therefore be pursued more aggressively.

Competitiveness and security of supply

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

The RE industry, and in particular wind energy, has exhibited significant growth over the last decade and demand for wind energy is growing internationally as the industry drives costs down.

A specific RE target is essential to nurture this trend and therefore must be central to a 2030 Energy Package. Additionally, since significant cost reductions of RE are being achieved with scale, anticipatory investment in grid infrastructure is becoming a lower risk strategy, the pursuit of which will further help reduce costs of RE deployment.

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?

Quantification of carbon leakage is extremely complex due to the complexity of global markets and there is limited evidence of this happening.

Other environmental, labour and social regulations are generally more prevalent causes of industry offshoring, a trend that started well before the ETS and European Climate and Energy Policies.

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

The primary driver in energy costs is the growing global demand for scarce resources. Projections predict increasing gas prices and increased volatility of gas prices. In the UK, where marginal generation is dominated by gas plant, it is responsible for the largest cost increase in consumer bills, well above increases due to renewable support mechanisms.

Additionally, in a competitive market, variable renewable technologies with low operational costs help displace high marginal cost plant, helping reduce costs to consumer as well as carbon emissions. Coupled with technology cost reduction trends, RE sources can become the prime energy generation option during the 2020s providing that an investment hiatus does not result from the lack of ambitious policy at EU and Member State level.

RE and infrastructure targets will guarantee further reductions in the costs of renewable technologies. Targets for the deployment of zero-carbon balancing technologies might help facilitate the transition away from volatile gas prices in the long term.

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?

The recent announcements in both the US and China with regards to new Climate Change mitigation policies illustrates the emergence of international alignment behind climate change mitigation efforts and confirms that momentum is growing.

The European Union should push for the most ambitious internal targets possible.

It is very important not to forget that our renewable industry competes on a global market for growth opportunities and capital and that growing momentum abroad must be met with more aggressive indigenous policies to avoid the offshoring of wind manufacturing facilities.

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)?

Experience has demonstrated that we need to avoid lumpy, inflexible regulatory mechanisms at European and Member State level.

This finding is in line with the framework set out by Fenner et al. in 2006 for the sustainability assessment of large infrastructure projects which clearly defined the need for ethically grounded ambitious targets.

Clearly defined long term targets within agreed trajectories could provide a benchmark against which limited adjustments could be made, providing that clear and transparent methodology is used and that intermediary targets are present in line with investment horizons.

Today we are witnessing tremendous cost reductions of the most mature RE technologies of Onshore Wind and Solar PV and this should renew confidence that committing to an ambitious RE target will not prove an onerous decision, and in deed is a low-regrets option, despite possible changes at the international level.

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

The wind energy industry is one of the most buoyant and fastest growing manufacturing industries in Europe at the moment and has gone from nation-centric industries to become a European wide industry.

As such we feel that it is time to build upon national industrial strategies and develop an overarching European Industrial Strategy that will foster internal cooperation in R&D, supply chain expansion and employment.

As a European industry, the allocation of some of the revenue from the sale of carbon emission allowances towards financial facilities to support the internal growth of the Wind Energy industry and export potential seems justified.

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?

In a world of growing demand and constrained resources, dependence on fossil fuel, whether indigenous or imported, will expose us to increased prices and price volatility. Indigenous shale gas resources are not forecast to dampen this effect, with gas prices predicted to increase steadily in the foreseeable future.

We believe that security of supply can only be achieved by exploiting sustainable indigenous resources, and evidence suggests that once externality costs are added to the cost of fossil fuels, RE technologies offer the least cost solution towards that end. Additional focus should be provided to indigenous industries such as onshore and offshore wind.

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?

We have highlighted the need to facilitate infrastructure development, including anticipatory investment, and fostering a greater sense of security in an interconnected European network as important components in the creation of safe, affordable and decarbonised internal electricity market.

Additionally it is essential that the market and regulatory mechanisms that underpin the IEM are improved and strengthened. Increasing liquidity, transparency and monitoring processes is key and we broadly support the EU-wide target and encourage faster progress.

Capacity and distributional aspects

How should the new framework ensure an equitable distribution of effort among Member States?

We support the effort sharing principle used to define the 2020 targets. This approach will need updating to reflect progress.

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?

We support the cooperation mechanisms and believe that these will take a more prominent role in the future as Member States seek to develop least cost projects. Currently barriers associated with different support mechanisms exist and these need to be addressed.

Are new financing instruments or arrangements required to support the new 2030 framework?

The priority is to establish a stable long-term framework that is attractive to investors. Setting legally binding Renewable Energy targets is therefore a priority instrument.

Energy infrastructure and Renewable Technologies compete for investment against infrastructure projects from other sectors internationally. Increasing the attractiveness of investment in RE projects is therefore correlated to the perception of risk associated with these projects. Any financial instrument that the EC can put in place that helps de-risk RE projects is a positive step and should be pursued and encouraged.

The involvement of the EIB and the creation of 'green' banks should also be expanded where possible. The EIB has been critical in facilitating the expansion of the wind energy industry in Europe, however the advent of large offshore projects will need more capital than the EIB can mobilise alone.

Finally, a finance gap seems to exist for the funding of small scale projects, namely community projects. The possible contribution of community projects to our decarbonisation targets is not negligible however the complexity of getting finance is a major barrier a European facility might prove beneficial.