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Dear Sirs

A 2030 framework for climate and energy policies

National Grid welcomes the opportunity to comment on the 2030 Framework for climate and energy policies. National Grid plays a vital role at the centre of the energy industry connecting millions of people safely, reliably and efficiently to the energy they use. National Grid owns and operates the high voltage electricity transmission system in England and Wales and as National Electricity Transmission System Operator (SO) operates the Scottish high voltage transmission system. National Grid also owns and operates the gas transmission system throughout Great Britain and through the low pressure gas distribution business, distributes gas in the heart of England to approximately eleven million offices, schools and homes. In addition, National Grid owns and operates significant electricity and gas assets in the US, operating in the states of New England and New York.

In the UK, National Grid's primary duties under the Electricity and Gas Acts are to develop and maintain efficient networks and also to facilitate competition in the generation and supply of electricity and the supply of gas. Activities include the residual balancing in close to real time of the electricity and gas markets. Through its subsidiaries, National Grid also owns and maintains around 18 million domestic and commercial meters, a Liquefied Natural Gas (LNG) importation terminal at the Isle of Grain, and has shared ownership and operation of the electricity interconnectors between England and France (IFA) and England and the Netherlands (BritNed). In addition, the wholly owned subsidiary, National Grid Carbon Limited, has advanced the transportation and storage elements of the Carbon Capture and Storage (CCS) supply chain.

Our transmission businesses have contributed to responses by ENTSO-E and Gas Infrastructure Europe (GIE). This response builds on the individual submissions and introduces a view from the perspective of the National Grid group.

Responses are given here with the section references from the consultation document.

Introduction – the importance of a long term policy framework on climate change

Much of Europe's energy infrastructure is aging and needs to be replaced; at the same time. As we move towards a low carbon economy, new energy sources are emerging presenting further challenges not only to infrastructure development alongside security of supply and affordability. On this latter point, energy prices have recently been identified as a major priority issue by the EU Heads of State in their recent EU Council meeting in May. We are clearly now in a significant time of change and challenge for the industry as we seek to balance the need for continued energy security with affordability and sustainability.

In our role as energy transmission and system operator, we sit at the heart of these challenges and have worked with stakeholders to build a set of scenarios covering the range of plausible outcomes of gas and electricity supply and demand out to 2030 in our [UK Future Energy Scenarios](#), the next edition of which will be published on 18th July 2013.

National Grid has already set itself challenging targets to reduce the greenhouse gas emissions that are a direct result of our operational activities – 80% by 2050 with an interim target of 45% by 2020.

We consider that the setting up of long-term greenhouse gas emission reduction targets at a European level is of clear benefit as it facilitates a long-term policy framework to combat climate change across Europe. We believe however that any 2030 targets should remain neutral in terms of energy sources; meeting a greenhouse gas target can be achieved by adopting a range of renewable and low carbon technologies.

National Grid also believes that the role of energy infrastructure should be recognised in the establishment of a 2030 energy and climate change framework. Throughout Europe, the need for interconnections and integration of new energy sources into the main network is very much a key issue and in the UK alone, we plan to invest billions of euros in new infrastructure over the next decade. Whilst energy infrastructure investments bring significant benefits – in terms of sustainability, jobs and for the economy – they also face the issue of public acceptability. National Grid would therefore welcome that the importance of infrastructure is fully recognised in the future framework which will be put in place.

Section 4.1 Which lessons from the 2020 framework and the present state of the EU energy system are most important when designing policies for 2030?

The 2020 framework is driving European countries to consider and implement ambitious climate change policies. These policies have impacted the energy system as a whole causing operational challenges for example where the pace of the necessary transmission infrastructure developed has not matched the pace of connection of new generation sources. It is therefore essential that in establishing any future targets due consideration is given to the potential impacts on aspects of the whole energy system as well as the markets themselves.

Section 4.2 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 sectoral), and to what extent should they be legally binding?

A clear and stable long-term regulatory framework ensuring a smooth transition from the 2020 to the 2030 framework is crucial.

A binding 2030 carbon emission reduction target would provide significant advantages:

- It would set up a long-term European and UK policy framework for carbon emissions reduction throughout Europe;
- It would provide European energy companies with a long-term predictability and certainty on energy investments;
- More generally it would encourage the use of cleaner, more sustainable energy technologies.

If the European Commission were minded to introduce a 2030 target for energy sources, a more complementary approach to a carbon emissions reduction target might be a target for new investments in “low carbon” energy rather than renewable energy specifically, which among other things could serve to encourage development of Carbon Capture and Storage generation, the slow progress of which is the subject of another concurrent Commission Consultation. It would also enable Member States to retain greater flexibility over their choice of energy mix to meet any carbon emissions reduction target.

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

The UK has targets for greenhouse gas reductions in the form of carbon budgets covering the period 2008 to 2027. If carbon emissions are within the budget levels by 2027 the country will be on a good trajectory for meeting the 2050 target of an 80% reduction in emissions. The European Directive requiring a 20% contribution from renewable energy to all EU energy by 2020 has been translated into UK law as a requirement for renewable sources to contribute 15% of all UK energy by 2020. Work carried out by National Grid and published in our [UK Future Energy Scenarios](#) suggests that the renewable and carbon targets are not well aligned. Any scenario that we constructed that satisfied the 15% renewable target led to emissions that were lower than required to meet the carbon budgets. The renewable target is driving emissions lower and faster than intended in the greenhouse gas reduction legislation.

The encouragement of renewable generation which, at least in the case of wind power is variable in nature, combined with the requirement to limit generation from high carbon sources could lead to a situation where there is insufficient flexible generating capacity on the system.

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?

Any targets at sector level need to be set very carefully. For example, encouraging the use of electric vehicles or heat pumps will contribute nothing to carbon reduction if the electricity needed to power them is coming from high carbon generation. Any sector targets need to be developed in a coherent manner alongside decarbonisation targets. In addition, large scale adoption of these technologies will require developments in electricity networks which will require significant financial investment and time to implement.

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

It is important that targets for 2030 are neutral with respect to technologies. Technologies can develop at a rate that may make a target set for 10 years or more into the future difficult to achieve or irrelevant. In the UK the conversion of coal fired stations to run entirely on biomass is a good example, having moved from proposal to implementation in very few years

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?

The ENTSO-E Scenario Outlook & Adequacy Forecast is an acceptable means of assessing security of supply. Within the UK this is addressed by the Statutory Security of Supply report published by the Department of Energy and Climate Change.

Security of supply is a Member State competence and must be independent of any European targets. Otherwise there is a danger that a Member State that places a higher value on security of supply may be subsidising a less risk-averse State.

Section 4.3 Instruments

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

The possible interaction between policy instruments is extremely complex and it is important that this is adequately understood before any changes are made.

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

Finding a strategy with truly optimised costs requires detailed modelling of the whole European energy system. The lowest cost will probably require trading in carbon or renewable allowances between

Member States but we recognise that setting up a transparent and effective trading mechanism is likely to prove difficult, as recent experience with the EU Emissions Trading Scheme demonstrates

Which measures could be envisaged to make further energy savings most cost effectively?

Energy efficiency is clearly a very important part of any strategy to reduce carbon emissions, and as such has received a lot of attention. In November 2012 the UK Government published the results of a consultation on energy efficiency, the [Energy Efficiency Strategy](#).

In our [UK Future Energy Scenarios](#) document we have included efficiency savings in the heating sector from additional insulation, though we accept that this market is now quite mature, from replacement of boilers with newer more efficient condensing models, and from replacing boilers with heat pumps. In the electricity sector there are large savings to be made with new lighting technology, both compact fluorescent bulbs and LED units. There are also savings to come from replacing other appliances, such as fridges and washing machines.

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

The EU's research policy may play an important role in supporting the achievement of the 2030 framework through different instruments:

- Funding (e.g. through the Horizon 2020 budget) should encourage green energy technologies - for instance grid and infrastructure technological enhancements and low carbon technologies such as Carbon Capture and Storage (CCS);
- More broadly the EU may incentivise use of green technologies.
- EU research must follow a 'holistic approach' where the energy aspect is fully considered – for instance it is important that progress is made in decarbonising electricity generation before adopting a wide scale roll out of electric vehicles

Section 4.4. Competitiveness and security of supply.

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

Many of the recent largest drivers in energy cost in the last two years have been global in nature, and so outside the influence of the EU. The fall in coal price due to US coal coming onto the international market having been displaced within the US by shale gas development is a good example. The rise in LNG price due to the closure of nuclear power stations in Japan and the subsequent diversion of LNG to the Japanese market is a similar case.

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 can support fundamental research or early development of technologies, such as Carbon Capture and Storage (CCS), that will allow indigenous coal or even gas reserves to be used in electricity generation, while giving a significant reduction in carbon emissions. Keeping fossil fuel in the generation mix contributes to security of supply but also provides flexibility for the market to complement intermittent renewable generation.

Section 4.5. Capacity and distributional aspects

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?

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?

Increased interconnection between Member States can contribute to increased security of supply and also encourage development of technologies in the most appropriate areas; for example wind generation in windy areas or solar capacity in regions with more sun. Interconnection will allow these abundant resources to be accessed by regions where the renewable resource is not as great and should help to drive down prices by increasing the efficiency of a pan-European market.

Facilitating through appropriate frameworks the trading of carbon or “low carbon” allowances is a good way of sharing the effort fairly between Member States.

Yours faithfully

[By e-mail]

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