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Consultation response on Green Paper on "A 2030 framework for climate and energy policies"

Our ref. JEDPE

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DONG Energy welcomes the opportunity to contribute to the consultation on the Commissions Green Paper on 'A 2030 framework for climate and energy policies'. We support its recommendation that an early agreement of the 2030 framework is critical for investor guidance, considering the long investment cycles in the energy sector.

The transformation of Europe's energy systems requires significant investments towards 2030 and beyond. New investments corresponding up to 90% of the current installed generation capacity in EU are needed by 2035 to replace ageing plants and to meet an increasing demand. Accordingly, the question is not whether to invest in new energy infrastructure but how to invest in order to ensure the transformation towards a sustainable energy system.

If no clear policy is in place to support investments in the green transformation, Europe risks investing in the wrong technologies leading to a more difficult and expensive path to the EU decarbonisation goal of 80-95% in 2050.

The transformation to a low-carbon energy system will also lead to a more independent energy system with stable and predictable energy prices. Today EU consumes approximately twice as much energy as it produces and import dependency is expected to increase during the coming decades. In 2011 the EU imported oil and gas for more than EUR 600bn. This capital could alternatively have been put to work in Europe.

A strong framework for 2030, succeeding the 2020 package, can establish a leading position for European low-carbon industries, and turn the challenge of climate change and deficiency of fossil resources in Europe from a weakness to a strength. Alone in the European wind industry 249.000 people were employed at the end of 2012 according to EWEA.

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DONG Energy is committed to decarbonisation

The decarbonisation transition of Europe's energy system is already underway and DONG Energy is fully committed to support the EU's 2050 objective of 80-95% GHG emissions reductions.

DONG Energy has put a plan in place, which is fundamentally changing our power and heat production with the objective of decarbonisation. Offshore wind and conversion of thermal plants from fossil fuel to biomass are the main building blocks in our strategy, and we will:

- Quadruple our installed offshore wind capacity from 1,7 GW in 2012 to 6,5 GW by 2020, maintaining the position as market leader
- Increase the share of biomass in our Danish coal and gas-fired power plants to 50% by 2020, doubling the current share

This plan will lead to a reduction of CO_2-emissions by 60% from 2006 to 2020, bringing our emission of CO_2 pr. kWh from 638 gCO2/kWh in 2006 to 260 gCO2/kWh in 2020.

DONG Energy's position in offshore wind will be based on continued industrialisation and reduction of cost of energy. DONG Energy has set an ambitious target of reducing cost of energy from offshore wind by 40% in 2020. For a reference offshore wind project in the UK with investment decision in 2020, the specific target is to reduce cost to at least 100 EUR/MWh, including cost of transmission to shore.

At less than 100 EUR/MWh offshore wind is expected to be in a competitive range of conventional technologies. Based on IEA assumptions, with a price of CO_2 at 25-35 EUR/t, coal, gas and nuclear have expected Levelised Cost of Energy in the 80-90 EUR/MWh range.

However, with the significant uncertainties surrounding the conventional technologies, only minor changes could push up their cost above the EUR 100/MWh level. Thus, adding CCS to a coal-fired power station would bring the cost of such a plant considerably above 100 EUR/MWh. Similarly, a 10% increase in the gas prices would bring a gas fired power plant above 100 EUR/MWh as well. For nuclear power, a 25% construction cost overrun make the cost go beyond 100 EUR/MWh. This is conservative compared to cost overruns experienced in plants currently under construction in Europe.

DONG Energy's target for reducing cost of energy requires the construction of a pipeline of projects, that allows for long-term planning and development of industrial and financial partnerships. These are crucial elements to bring down cost.

This pipeline of projects is embedded in the national offshore wind ambitions, anchored in the binding RES targets for 2020 through the National Renewable Energy Action Plans. In order to ensure a continued successful cost reduction path after 2020, the 2030 framework for climate and energy policies should provide a similar planning certainty.

The implementation of our strategy will lead to annual investments in offshore wind of more than EUR 1bn, and additional investments in converting coal fired power stations to sustainable biomass.

One of the main challenges for offshore wind is to raise the required capital. According to Boston Consulting Group EUR 110bn will be required to realise the targets for offshore wind in the EU by 2020 and it will take innovative business models to raise the required capital.

Having raised more than EUR 2.3bn for offshore wind investments from financial and industrial partners since 2009, DONG Energy must emphasise the fundamental importance that investors place on a stable and predictable regulatory framework. Investors look to the EU to adopt a binding legal 2030 framework that sets ambitious policy objectives and ensures regulatory predictability.

Recommendations for 2030 framework for climate and energy policies

Looking ahead the main objective is to reduce CO_2 emissions in a cost efficient way to promote sustainability, security of supply and competitiveness in the EU. Based on lessons learned this can best be achieved by a new set of binding targets and long-term targeted policies:

1. A binding CO_2 target of at least 40% irrespective of a global climate agreement
2. A structurally reformed and strengthened ETS that supports deployment of market mature low carbon technologies, is robust to fluctuations in business cycles and with a minimum price of carbon
3. A new binding RES target and long-term policy measures, targeted at next-generation RES technologies like offshore wind, to enable the necessary long-term planning and cost reduction
4. A clear strategy on accelerated build-out of transmission infrastructure

These points will be developed further in the following.

1. A binding CO_2 target for 2020-2030

It is essential that an ambitious CO_2 target in line with the 80-95% CO_2 reduction commitment by 2050 is agreed to ensure certainty for investors, irrespective of a global climate agreement. According to the Commission, a reduction target of at least 40% by 2030 compared to 1990 is required to fulfil this commitment. DONG Energy is a strong supporter of an ambitious binding CO_2 target of at

least 40% by 2030. A CO_2 target milestone for 2040 on the path towards 2050 is important to provide guidance and should be included.

2. *A structurally reformed and strengthened ETS with a stable price on CO_2*

A well-functioning ETS can deliver a cost efficient framework for technologies that have already driven down cost to a market mature level and induce investments away from coal towards, gas, biomass and onshore wind. However, lessons from the current and previous phases of the ETS have demonstrated that the ETS is very vulnerable to business cycles. The EU Impact Assessment for the 2020 package envisaged a carbon price of EUR 20-30 during the present phase but the economic recession has resulted in a price around EUR 5.

As a consequence, coal-fired power plants currently run at full capacity due to a combination of low coal prices and very low carbon prices. At the same time, gas-fired power plants stand idle and are being forced out of the market, in spite of the fact that these plants will be needed, not least to balance variable RES.

Consequently, if the carbon price through a strong ETS is to drive low-carbon investments for market mature technologies, policies to ensure a carbon price floor is required.

3. *A new binding RES target and long-term policy measures*

Offshore wind is expected to be the fastest growing energy technology in Europe towards 2020 and projections expect offshore wind to constitute 3-4% of total installed power capacity in EU 27 by 2020 and 8-9% by 2035. Offshore wind is an attractive CO_2 free energy source, which is scalable with a high energy content compared to onshore wind and with a potential to reach market maturity during the period of 2020-2030.

A well-functioning and stable ETS is a fundamental requirement to support the long-term green transition. However, in itself, it is not sufficient to ensure volume, industrialisation, and cost reductions and market maturity for next-generation RES technologies such as offshore wind.

As a consequence, the 2030 framework for climate and energy policies must support national governments in setting long term targets to promote next-generation low-carbon technologies until they reach market maturity. This can be done through a new binding RES target and long-term policy measures, targeted at next-generation RES technologies. A new binding RES target for 2030 will also support long term planning for investors and reduce uncertainty until a robust ETS has been phased in.

DONG Energy recognizes that support for next-generation technologies is only warranted in a transition phase towards market maturity and that RES technologies in different development phases require different specific financial incentives and measures:

1. R&D support for the most immature RES technologies at EU and national level
2. Incentive schemes that ensure industrialisation through large scale deployment for next-generation RES technologies such as offshore wind driving down cost to market maturity.
3. Highly commercialised RES technologies close to market parity with conventional power generation may require supportive measures in the transition to a robust ETS..

It is of utmost importance to the continued industrialisation of RES that a legislative gap does not occur between the present policy framework and the post 2020 policy framework, as this will lead to stop and go situations disrupting industrialisation, development of project pipelines and investment decisions.

4. Strategy for build-out of transmission infrastructure

Transmission infrastructure is essential in a low-carbon energy system. Experiences from the current framework have shown that lack of transmission infrastructure to accommodate large volumes of variable renewables brings new challenges. The current slow progress in developing transmission can become a barrier to the efficient integration of variable RES. It is critical that build-out of transmission infrastructure is accelerated, and this may require new targeted EU measures.

A well-functioning internal energy market is also a pre-requisite for cost efficiency and security of supply. In the implementation of the internal energy market with increasing shares of variable RES, it is particularly important that flexibility is rewarded adequately, and that cross-border trade continues to be improved.

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