EWEA

THE EUROPEAN WIND ENERGY ASSOCIATION

EWEA response on the CEER call for evidence on Generation Adequacy Treatment in Electricity

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1. General remarks

EWEA welcomes the CEER call for evidence as most of the present generation adequacy measures are national in scope and there is a need to address generation adequacy measures with a more European approach in order to achieve a truly Internal Electricity Market (IEM). The new legislative context with the implementation of the RES Directive and the 3rd Liberalisation Package will have a considerable impact on generation adequacy treatment over the coming years. These two legislative packages should be the guiding principle for European Energy Regulators on any further policy options in this regards.

However, CEER rightly states that European legislation has not been prescriptive and explicit in the way generation adequacy should be established. In the absence of a proper regulatory framework to establish liquid and efficient electricity markets it is therefore required that all relevant stakeholders deliberate on a more detailed approach to address generation adequacy needs in the IEM.

Since the deployment of renewables, particularly wind power, and the integration of European electricity markets are fundamentally linked, EWEA aims to provide its views on the questions raised in the CEER paper, particularly on barriers for investing in new generation capacity and on measures to overcome them.

2. Questions for the call for evidence

I. What are the key elements for ensuring generation adequacy in the competitive electricity market in EU MS and the EU as a whole?

Until the 1980s, electricity generation, distribution, grid reinforcement, grid extensions, and electricity selling were undertaken by national, vertically integrated monopolies that were granted exclusive rights and mandates to finance investments and research in new capacity and technologies through state subsidies and levies on electricity bills. As Europe is moving in the direction of more liberalised power markets, those options are no longer available and new generation technologies are facing a more challenging environment on the path to market penetration, competitiveness and maturity.

The power system in Europe, which has been constructed and operated in the last century with large centralised coal, hydro, nuclear and, more recently, gas fired power plants in mind is now set to change considerably with the implementation of the RES Directive, the 3rd Liberalisation Package, and GHG reduction targets. As a result the European Commission expects penetration levels of 34% renewable electricity by 2020[1]. The resulting publication of the National Renewable Energy Action Plans

[1] For a complete overview on the European Commission views on RES development in all EU MS please see: http://ec.europa.eu/energy/energy_policy/doc/03_renewable_energy_roadmap_en.pdf

(NREAP) in June this year will give a concise picture on how the RES sector in the EU and each MS can be expected to develop over the next ten years giving a clear framework for investors in future generation capacity. The CEER paper therefore wrongly states that any "risk may also stem from uncertain environmental objectives and goals". On the contrary, the pathway towards the RES targets in the EU by 2020 will be depicted in detail in the forthcoming NREAPs providing a quantifiable outline for wind power deployment, and the deployment of other renewable energy generators in each MS.

It is true, however, that energy prices are already more volatile than in the past due to the recent increase of both wind and gas power plants in the EU electricity portfolio, posing a possible challenge to financial feasibility of an investment in slow-response, fossil fuelled generation capacity. European Energy Regulators should therefore prepare for a future power system characterized by flexibility – with dynamic electricity markets (and an increased number of market participants) playing a role to facilitate the integration of wind power generation and other renewables – rather than one in which large-capacity, slow-ramping fossil and nuclear plants provide power.

Consequently, the uptake of flexible electricity markets should be considered an opportunity as they will provide clear price signals for when to generate electricity, and when not to. In addition, progress in demand side response and the envisaged development of a future Smart Grid will allow for all market participants, including consumers provided with smart meters in their homes, to take advantage of such market-based incentivisation and react to price fluctuations by adapting their consumption behaviour to actual price.

Nonetheless, the most recent extreme cases of price volatility result from of a lack of transmission capacity, and in some cases result from anti-competitive behaviour by some market participants, rather than, as some stakeholders sometimes incorrectly state, as a consequence of increased wind power generation on the system. European Energy Regulators should thus also focus on: putting in place a well-functioning market monitoring mechanism; together with improved transmission grid infrastructure. In general, ongoing market integration across Europe could provide a further building block for a future power system characterised by flexibility. This would be characterised by dynamic and integrated electricity markets on all timescales, together with demand responding to price signals. All investors in new capacity, system operators and regulators will have to adapt to these changes by managing power systems closer to real time - both demand and supply - as such a flexible power system is key to integrate large amounts of variable RES in an economically sound way. It is for this reason that EWEA advocates an EU-wide deployment of intra-day market trading with implicit auctioning and gate closure times as close to real time as possible, as well as the application of intra-day wind power forecasting for low reserve requirements.

For market integration to happen in the most economical way Europe's electricity grid needs major investments, with a newly built offshore grid and major grid reinforcements on land. The present legal framework with newly established bodies ENTSO-E and ACER, as of 2011, and the key deliverable of the 10-Year Network Development Plan as well as the ongoing intergovernmental "North Seas Countries' Offshore Grid Initiative" are steps in the right direction and the political momentum for grid development and RES integration is evident.

As long as a well designed regulatory framework for electricity markets, network access and electricity infrastructure development is not realised, wind power and other RES will remain disadvantaged compared to the situation under which conventional power sources such as oil, gas, coal and nuclear power sources were developed and introduced.

II. Do you observe any barriers for investing in new generation capaciy? If yes, please list and explain them.

As the economics of a wind power plant are crucially dependent on the site wind resource, locations will be eligible which might be far from the actual load. Wind power has for that reason the particularity that wind farm location is dictated by the resource availability. However, all systems differ and distances of wind generators to the load within countries can be entirely variable. The range of network charges can vary significantly between projects and should therefore not be subject to specific locational charging regimes. Furthermore, it should be taken into account by the regulators that smaller investors are often hampered when it comes to investing in remote areas. Recital 63 and article 16 of Directive 2009/28 are vital in this respect, as locational charging disadvantages wind generators in the market. EWEA urges European Energy Regulators to properly consider the above mentioned EU legislation for any application of locational signals in their "generation adequacy" methodology.

Secondly, CEER rightly states that the modalities of European CO_2 emission allowance rationing for the third phase of the Emission Trading Scheme (ETS) are key factors for the competitiveness of any future fossil fuel power plant. In EWEA's view it is essential to apply the polluter pays principle to make conventional generating technologies pay the real social (pollution) cost of their activities. There are thus strong economic efficiency arguments for creating market regulations for renewable energy, which attribute value to the environmental benefits of their use.

Although the economically most efficient method would theoretically be to use the polluter pays principle to its full extent – in other words, to let all forms of energy use bear their respective pollution costs in the form of a pollution tax – the ETS has been put in place in the EU. However, the ETS in its current form has had no noticeable impact on investment in RES, or any other investment in new generation capacity, as in its first phase protected companies received free permits and in its second phase the ongoing recession has considerably lowered demand for carbon permits. EWEA therefore urges all stakeholders to ensure a more efficient deployment in the third phase of the ETS, with auctioning modalities put in place which would eventually put a price on pollution and trigger the necessary investments in RES.

III. In case of additional measures for ensuring generation adequacy, what would be the key issues to take into account?

European Regulators, together with investors in new capacity, the European Commission, and Member States, should continue to acknowledge the contribution of wind generation to Security of Supply in Europe. The EU stands out as an energy

intensive region heavily reliant on imports (more than 50% of the EU's primary demand) and additionally, the use of fossil fuel fired power plants exposes consumers and society as a whole to the risk of volatile fuel and carbon prices.

Wind generation is a capital-intensive technology, with rather low variable cost and zero fuel cost, whereas coal and gas-powered plants have high variable costs due to the fuel fill and, particularly in the case of new gas power plants, low capital costs. However, international oil price projections all indicate a steady rise in oil prices providing further uncertainty on the future generation cost of fossil fuel based generation[2]. The key advantage of wind power over conventional technologies is that investors have control over generation cost for the life time of the plant: mean site wind speed and the cost of a fully installed wind plant are known from the outset. European Energy Regulators should therefore recognise that the apparently higher wind energy costs have to be compared with the opportunity to plan the economic future of Europe on the basis of known and predictable costs.

In this regard wind energy provides a domestic energy source, which is not only fossil-fuel free, but also free from any economic risk emerging from fuel and carbon price volatility as experienced in the recent years.

In the context of the item in the CEER paper on risk and risk management for generation projects it should be recognised that traditional, engineering-economics cost models were first conceived a century ago, and have been discarded in other industries (because of their bias towards lower-cost but high risk expense-intensive technology). In energy models, they continue to be applied widely. In the case of electricity cost estimates, current models will almost always imply that risky fossil alternatives are more cost-effective than cost-certain renewables. This is roughly analogous to telling investors that high-yielding but risky “junk bonds” or stocks are categorically a better investment than lower yielding but more secure and predictable government bonds[3].

If our power supply consisted of only oil, gas and coal technology, the engineering cost approach would not be too much of a problem. This was true for most of the last century but is no longer the case. Today, energy planners can choose from a broad variety of resource options that ranges from traditional, risky fossil alternatives to low-risk, passive, capital-intensive wind with low fuel and operating cost risks.

In other words, current calculation practice favours conventional, expenditure-intensive fuel-based power generation over capital-intensive, zero carbon and zero fuel-price risk power generation from renewables such as wind power. Wind energy would appear even more cost competitive if carbon price and fuel price risk had been included in the analysis.

[2] Data from both the US and UK governments suggest an oil price of around $ 100 a barrel by 2012 and $ 120 a barrel by 2020. The IEA assumes slightly lower oil prices by these timeframes.

[3] For a full overview on a more risk adjusted approach to estimate the value of wind power investments compared with conventional power generators, see chapter 4 and 5 of the EWEA economics of wind power report:
http://www.ewea.org/fileadmin/ewea_documents/documents/publications/reports/Economics_of_Wind_Main_Report_FINAL-lr.pdf

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The European Wind Energy Association (EWEA) is the voice of the wind industry, actively promoting the utilisation of wind power in Europe and worldwide. It now has over 600 members from 60 countries, including manufacturers with a 90% share of the world wind power market, plus component suppliers, research institutes, national wind and renewables associations, developers, electricity providers, finance and insurance companies and consultants. This combined strength makes EWEA the world's largest and most powerful wind energy network.