

Energy Norway response to the CEER Consultation on regulatory aspects of the integration of wind generation in European electricity markets

Energy Norway thanks CEER for the opportunity to comment at the consultation on the regulatory aspects of the integration of wind generation in European electricity markets, which comes at an important time in the debate.

While we welcome the development of wind energy and other renewables, effects on the market and the grid of their rising market share are increasingly visible. We agree with CEER that cross-border day-ahead and intraday market integration and the strengthening of the grid are essential to integrate increasing volumes of renewables in the market. In addition, due to the intermittency of wind power and the increasing price volatility in the power systems, the creation of well functioning cross-border balancing markets and the exchange of system services across borders also need to be given high priority. Integrated balancing markets would facilitate necessary flexibility by combining volatile wind with flexible Scandinavian and Alpine hydropower. Answers to specific questions can be found on the following pages.

Energy Norway is a trade organisation for about 260 generators, suppliers, distributors and contractors in Norway.

Energy Norway's members each year produce nearly 130 TWh, which is some 99 per cent of all power production in Norway. Our members have approximately 2.5 million grid customers, which is about 91 per cent of Norway's grid customers. The members of Energy Norway have some 15 000 employees, and had a gross turnover to end-users in 2009 of 75-80 billion Norwegian kroner. EnergyNorway response to the ERGEG Consultation on regulatory aspects of the integration of wind generation in European electricity markets

Question 1: How will the expected growth in wind generation affect the markets in which you operate? What are the key challenges you foresee? The integration of growing intermittent wind generation poses challenges both to the electricity markets and to the operation of electricity grids.

For the Nordic area, investment in RES can lead to a major power surplus, since there is only a limited fossil fuelled capacity to replace. Export of the power surplus to the Continent or Great Britain is just partly feasible, due to the significant capacity cost of cables. Hydropower plants with ample reservoirs will be able to absorb most of the variations of wind power, so we expect only moderate increases in volatility.

For the Continent, we expect wind power to be developed on the northern and western coastline. This will lead to increasing price volatility and a growing need for flexibility and balancing power due to the volatility and forecasting errors. It is therefore important to urgently integrate European system operation as well as day-ahead, intra-day and balancing markets to offer enough flexibility and reserves to cope with the higher volatility.

The current power system is also challenged by lack of grid capacity to the load centres and by lack of coordination between TSOs, leading to cross-border capacity restrictions and unplanned (loop) flows. Increasing wind power will exacerbate these problems. There is an urgent need for increased cooperation and electricity grid reinforcements. As authorization procedures for grids currently are demanding processes in all member states, they need to become less complex and time consuming to help fulfill the EU targets for renewables and market integration.

Question 2: What are the implications for market rules? Can you identify changes, which would better facilitate integration of wind generation, including management of intermittency?

Market rules should facilitate cross-border integration of day-ahead, intra-day and balancing markets. Different product definitions for balancing products and different rules (gate closure times, capacity allocation mechanisms and modeling algorithms) prevent market integration and competition and should therefore be harmonized.

Some support schemes for wind generation and other renewable generation remove the electricity generated from the regular electricity markets. If a growing share of electricity is bought and sold outside their scope, markets risk losing their importance. Therefore, support

schemes should be made compatible with markets by incentivizing renewable producers to sell on the electricity markets. Exposure to market prices would also ensure that there is no incentive for renewables to produce when prices are zero or negative.

Question 3: Would moving the market's gate-closure closer to real-time facilitate the deployment of wind generation? Would this have any adverse consequences on the functioning of the electricity power system?

Moving gate closure in the intra-day trade closer to real time production will facilitate integration of wind generation, as forecasts get more accurate closer to real-time. Conventional power plants and renewable generation should have the same gate closure, one hour before real time, as the production schedules of conventional power plants are influenced by the expected generation from renewable sources. Moving intra-day gate closure closer to real time than one hour will on the other hand represent a great challenge for TSOs to plan and coordinate their system balance and necessary system reserve procurements.

Intraday markets are an excellent complement to balance the portfolios once new wind forecasts are calculated. Moving the focus from day-ahead towards intraday would, however, significantly increase the trading complexity especially for smaller actors and threaten the liquidity in the day ahead market. The day-ahead prices should therefore remain the reference price for futures and forwards and for balancing.

Question 4: Are emerging cross-border congestion management models compatible with wind generation? Should further attention or priority be given to intraday capacity allocation mechanisms and markets, in light of the issues associated with forecasting wind generation?

Emerging models are a step in the right direction, although the implementation time needs to be speeded up. The focus should remain on coupling of day-ahead auctions, complemented by cross-border intraday and balancing markets.

The cross-border capacity should to a large extent be allocated to the day-ahead markets, where implicit auctions and price coupling will increase market efficiency considerably. Intraday markets can use the grid capacity that becomes available after recalculation by the system operator following the submission of production plans. Such capacity should be given free of charge to intraday markets and allocated using a continuous trading solution.

There should be an opening for the reservation of cross-border capacity for balancing services on a short, medium and long term basis, provided that market participants or TSOs are willing to pay market value for it, defined as the price differences between the two markets in the day-ahead auction. Capacity allocation to secure availability of capacity for balancing markets is a precondition for cross-border integration in supply of these services.

Such trade opportunities will reduce the cost of balancing for the TSOs by allowing reliable access to the cheapest available flexible technology, such as Scandinavian and Alpine hydropower. In most cases such reservations would only concern a small percentage of the capacity (e.g. 5 - 10%).

Question 5: Should wind generation be subject to the same balancing obligations and the same types of charges as other types of generation?

To create a level playing field on the market, wind generation should have the same balancing responsibility and face network access charges, following the same principles as for conventional generation. This would guarantee that those who generate volatility also bear the mitigation costs and thus also have strong incentives for technical innovation towards flexibility, for aggregation of wind farms to reduce volatility and for improved wind forecast tools. Support schemes for wind generation can be fully compatible with grid arrangements, as demonstrated by some countries.

Question 6: Should TSOs engage in research and development (R&D) to address issues associated with a large share of wind generation included in the network? If so, how should the regulatory framework require or support this?

As TSOs have a clear responsibility for securing quality, they also have a natural role to play concerning R&D issues of integration of intermittent wind and other renewable power. However, there is a question of how TSOs can be encouraged to invest in R&D activities if there are no economical incentives to do so. In this respect it is important to take into consideration the existing organizational differences between European TSOs ranging from profit oriented companies to state owned monopolies. Economic incentives that drive TSOs to reduce their operational costs of balancing the system could give incentives to increased R&D activity on the subject.

Question 7: Should wind generators face the same types of network charges as other new generators, calculated using the same methodology? What is needed to provide a sufficient incentive for generation in choosing where to locate? What is needed to provide an appropriate balance of risk among market players? When should this not be the case?

To create a level playing field, charges for existing and new generation should be calculated following the same principles. The same should apply for connection rules and costs, reflecting the true cost also in remote areas. If network costs are reflected correctly in a harmonized way throughout Europe, the right incentives for optimal location of new generation is given also for renewables.

Question 8: Broadly, what is the appropriate allocation of responsibilities, risk and cost among market players in developing new network infrastructure (e.g. ahead of or in response to new generation connections)? Should this be different for wind generation? Where is harmonization required?

TSOs and DSOs should have a long term approach developing their networks, taking into account scenarios for renewable generation and the interests of relevant network owners and stakeholders. As network authorization tends to be more cumbersome and time consuming than authorization of new generation, it is important to secure authorization of necessary network investments in advance or at best in alignment to avoid inefficiencies. In this respect, wind generation should be treated the same as other generation.

Question 9: Do you agree that the “supergrid” issues for regulators identified in 5.1 are relevant? Is there anything else European regulators should be considering?

The issues mentioned are relevant for a “supergrid”. In addition, they are also relevant for the development of European interconnectors in general.

Question 10: Is the current ownership structure of the offshore lines or their regulatory framework a potential issue for the integration of offshore network? Are there other considerations affecting this ownership structure?

Offshore cables raise several coordination issues such as different balancing regimes and applicable law outside territorial waters, which are identified correctly in Section 5.1. In the light of the major investments necessary to build the grid, ownership of cables is one of the major issues. In our view, ownership should also be allowed for generators and other non-TSO actors (the so called merchant cables), as long as access and use of the cables are appropriately regulated.

Question 11: Do you agree that the Regional Initiatives should be used to address the issues associated with the development of the regional projects? What challenges does this present?

Regional Initiatives are only a first step to adequately plan RES deployment, as most issues have a multi regional dimension. The North Sea offshore grid, potentially connecting offshore wind, Scandinavian flexibility and RES power surplus to central load centers, is such a case and requires members from currently 3 Regional Initiatives to work together. Progress of European market integration also connects more than one region. Therefore an overarching structure is necessary to coordinate projects with multi-regional impact.

Question 12: What other issues should European regulators consider in relation to the integration of wind generation?

Currently the discussion is very much centered on how electricity generation and the grid can deal with increasing shares of intermittent power. There is however also a major potential to increase flexibility on the demand side, which can be a valuable addition. The discussion connected to smart grids and intelligent metering can be seen in that context.

Considering the energy system as whole and not just the electricity markets, there are additional opportunities for flexible use for example in the heating sector (using electricity for heating when there is abundant wind instead of fossil fuels as in Denmark) or in the transport sector (electric vehicles).