

European Regulators Group  
for Electricity and Gas (ERGEG)  
c/o Council of European Energy Regulators (CEER)  
Rue de Titien 28  
B-1000 Brussels

15 February 2010

## **Regulatory aspects of the integration of wind generation in European electricity markets**

### **Swissgrid response to public consultation**

Dear Sir or Madam,

On behalf of Swissgrid, the Swiss TSO, we are pleased to hereby provide our response to the public consultation "Regulatory aspects of the integration of wind generation in European electricity markets". Please note that we have no comments on the questions 5, 7, 8, 10.

#### **Question 1: How will the expected growth in wind generation affect the markets in which you operate? What are the key challenges you foresee?**

Answer 1: Although there is no appreciable infeed of wind power within Switzerland, the operation of the Swiss grid is significantly influenced by the wind power production in Northern Germany. We observed increased volatility of power flows what also lead to less precise load flow forecasts. We point out that this can affect system security. Due to the fact that the wind power infeed is of first priority for dispatching in most of the affected power systems, a corresponding adaptation of conventional power plant dispatch has to take place.

#### **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?**

Answer 2: In order to cover the needs of the whole power system, it is required to combine incentives for wind infeed with incentives for storage and handling of fast load changes within the whole system. In this context we also consider the integration of Swiss pump storage hydro power plants within Europe as important, since they can play an important role in the balancing of the volatile power flows of wind generation.

Additionally we consider the introduction of locational signals as important. Since the transmission of energy – especially if it is volatile like wind power – is more costly over longer distances, installation of generation close to big consumption centres should be incentivized. We therefore consider that further analysis of a more sustainable market model is required.

Volatile wind production complicates the operation of the grid, since it makes the production less predictable. For TSOs it could therefore be helpful to get better access to production data of generation units. This includes production forecasts on the one hand and real time data on the other hand.

#### **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?**

Answer 3: Gate closure-time closer to real-time would increase the efforts for operational ahead security assessment, by shortening the related time, the forecast quality would increase, but the remaining time to react in the case of discovered (n-1) overloading would decrease, in other words, the solution is an adequate balancing between financing benefit and operational risk.

**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?**

Answer 4: From the operational point of view full compatibility is given, if the calculation models are sufficiently precise, which means that the real topology and infeed/consumption is represented accurately. Nevertheless we consider the strict cross-border congestion management approach not as a sustainable solution, since it still allows critical grid situations caused by congestions. A sustainable market model should not only take congestions at the border of the countries into account but also congestions within the countries. We therefore regard additional analysis as necessary.

**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?**

Answer 6: This is absolutely required, however this topic is already addressed, it is one of the first order tasks within the R&D activities of almost all affected European TSOs. For example ENTSO-E started a consultation on the "R&D Plan Eurogrid 2020" on 11 January 2010.<sup>1</sup> In order to ensure the financing of R&D activities, costs should be considered within grid tariffs.

**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?**

Answer 9: Due to the fact that the distance between generation and load centres will increase, the "supergrid" is one potential solution for solving the related problems. In that case it must be taken into account that a supergrid is a cross-border project that requires a close cooperation between the TSOs concerned. Cooperation should therefore not be handicapped by a separated operation of offshore- and on-shore-grids.

We consider Switzerland as an elementary component for a supergrid, since an efficient integration of Swiss pump storage hydro power plants can create an important benefit for the European wind power integration.

**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?**

Answer 11: Regional initiatives might speed-up some projects, but they should be coordinated simultaneously with the overall power system structure development.

We consider especially topic oriented cooperation as sensible. Hence cooperation should be done where technical and functional connections require it and not where they are politically defined. Therefore - depending on the topic - an involvement of different regions could be necessary even if it crosses regional borders.

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<sup>1</sup>[http://www.entsoe.eu/index.php?id=42&tx\\_ttnews\[tt\\_news\]=29&tx\\_ttnews\[backPid\]=28&cHash=74284b4a3d](http://www.entsoe.eu/index.php?id=42&tx_ttnews[tt_news]=29&tx_ttnews[backPid]=28&cHash=74284b4a3d)

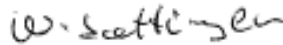
**Question 12: What other issues should European regulators consider in relation to the integration of wind generation?**

Answer 12: They should try to find a technical and economical optimum on an European level and support all market players in a non-discriminatory way. They should consider economical factors, but without neglecting system reliability. It is a question of balancing economical and technical boundary constraints.

Best regards,  
Swissgrid Ltd.



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Head of Market and Regulatory Affairs



Walter Sattinger  
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