EFET response to CEER Public Consultation Paper (C09-SDE-14-02a) on Regulatory Aspects of the Integration of Wind Generation in European Electricity Markets

The European Federation of Energy Traders (EFET) is an industry association representing over 90 trading companies operating in more than 20 countries. Based on the EFET mission which involves improving conditions for energy trading in Europe and fostering the development of an open, liquid and transparent European wholesale energy market, we welcome the CEER's consultation paper (hereinafter "Report") that summarizes regulatory aspects and prospects how to integrate the increasing amount of wind energy into the European electricity market. We support any steps e.g. within the Regional Markets, the implementation of the 3rd Energy Package or the Directive 2008/28/EC (hereinafter "RES-Directive") which improve harmonisation of the internal energy market and cross border trade also with respect to wind energy. Our comments reflect the wish to promote an efficient internal market for electricity trading by applying market-based mechanisms and market-acknowledged best practices.

Question 1:

How will the expected growth in wind generation affect the markets in which you operate? What are the key challenges you foresee?

Increased penetration of wind generation will lead to more volatile prices in spot and balancing markets, with prices even going negative in certain circumstances. For a successful incorporation of wind generation, regulators and governments need to be ready to accept this volatility and to make sure that the regulation maintains correct incentives for solutions to balance supply and demand and, in particular, to encourage the flexible fossil generation that will increasingly be required.

Currently this process is distorted by non-market-based support schemes for energy from renewable energy sources ("RES") used in most Member States which establish de facto a separate market which has already started distorting the European electricity wholesale market.

For example, in many current support schemes, project developers observe local wind conditions and the level of i.e. in-feed subsidies in a specific country and rely on priority or guaranteed access (Art. 16 Section 2 Directive 2009/28/EC) in order to calculate an expected pay-off. Long-term energy surplus or deficit and consequently long-term market price forecasts or expected costs for balancing obviously do not play any role in this analysis. This method to support renewables is damaging to the correct functioning and the reliability of wholesale markets. Moreover, since these arrangements do not currently provide the right incentives to take into account system

security and start creating a lack of confidence in the operations of some traded markets, they ultimately risk being unsustainable.

In addition, the allocation of wind integration costs, including grid enhancements, balancing costs and support schemes vary from one country to another (cf. Annexes 3 and 4 of the CEER Report), thus creating further distortions. The growth of renewable energy, of which wind generation forms the biggest part will only reinforce difficulties to improve harmonisation of regional or EU wide markets for RES. Furthermore, any national solution, also with potentially various certificates within the same country for different purposes (e.g. in UK ROC, LEC and REGOs), will lead to imperfect and illiquid markets, without the same potential for integration under the third Energy Package.

As further grid enhancements will be required as an enduring solution to transport the wind energy surplus to other regions, it is however very clear that grid reinforcements will often take much more time than building additional generation. During the interim period when grid enhancements are not in line with the increase of wind generation, various measures will also be needed in order to cope with the physical integration of this increased wind generation into the network.

Examples of major *effects/challenges* are:

- For generators and traders of conventional power the increase of wind generation will influence the pricing in the power market: Wind generation, as one of the cheapest marginal cost technologies, will replace conventional power plant. This is normal, but when this power is offered at negative prices because of price insensitivity because of feed-in tariffs or because it is offered by a TSO which is not directly impacted by this negative price, then it becomes a serious market distortion.
- In addition, profitability of conventional power plants, will as a consequence, be affected by lower utilization rates, as a direct result of wind generation being offered at low price in the merit order. Increasing proportions of wind generation will also require conventional power plants to operate in a more flexible manner, especially where renewable capacities are supported by a priority of feed-in to the grid. As a consequence we expect that the need for highly flexible generation capacities will increase when simultaneously these generation capacities will get less profit from markets if lower utilization rates are combined with capped market prices or other technical limitations.
- Concentration of wind energy in certain regions will lead to increased incidences on networks, which could be unable to cope with this extension of wind production. Congestions will have to be managed either at interconnection points or within national grids. Due to the high geographical concentration of wind power in those areas, we have already observed a deceasing volume of cross-border interconnection capacities. This hinders cross-border trading and limits potentials for price convergence. When facing uncertainty around the level of wind output and the associated difficulties in managing network flows, network operators have tended to deal with this by increasing security margins and offering lower cross border capacities. We believe that giving back some control on this variability to TSOs (especially through classical balancing mechanism) would induce fewer risks and allow more capacities to be offered on interconnections, thus resulting in a more

global efficiency. In order to allow the market to react, transparency on the TSO's activities and close cooperation with adjacent TSO's is inevitable. However, in case the system security is affected, the system operators already have the right to curtail wind generation (Art. 16 Section 2 c Directive 2009/28/EC). They should only develop their ability to efficiently balance wind generation, like for any other generation, with the adequate compensation for these generators.

- Finally, the roles and responsibilities within each national market concerning renewable energy differ to a great extent, and the impact of this will increase with the penetration of wind. Taking Germany as an example, TSOs are obliged to take on the task of forecasting wind production and to marketing the wind energy at the exchange, to balance the balancing group for renewable energy, taking a role and risk which is not generically part of the operation of the grid and arguably not consistent with unbundling requirements.

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?

We recommend addressing the effects and challenges of the growing wind generation as described in our answer to Question 1 through a market-based system for renewables such as direct marketing, quota or premiums where the wholesale market price is the key element of wind power generators' remuneration. Energy surplus and deficit and consequently rising or falling forward prices would guide investment decisions and lead to a more equal distribution of wind power generation across Europe. This would ease the technical integration into transmission grid and distribution networks and allow a smarter integration into market processes.

In the meantime, the current distortions would be reduced if wind generators were obliged to participate in the wholesale market without incentive (incentive set to zero when market price is negative) and to balance their positions in the same way as other generators.

Furthermore, in order to cope with the growing part of intermittent wind generation most efficiently, market rules need to provide incentives for the following:

Predictability

There is a great need for an improved data base for wind patterns. As the number of wind turbines increases, it will be possible to use sampling techniques to improve predictability of wind output. With an improved predictability it should be possible for wind generators to be exposed to the requirements to balance their perimeter in the same way as conventional generation. This would facilitate the integration of wind and help deal with intermittency.

Furthermore, an EU wide harmonised real-time transparency on the actual wind generation and the introduction of smart grids will help the market to foresee and to react to changes in wind production. Demand and production side management in

combination with smart grids can then be used by market participants and this will lower the need for costly peak demand reserves.

Market-based RES support scheme and market integration

As expressed above, we recommend a market-based model to support renewable energies.

The normal development of market integration will also allow a smarter integration into wholesale markets and better fit with traders' fundamental interest to optimize their portfolio:

- The more liquid day-ahead and intra-day markets are, the better the opportunity to react on hourly surplus and deficit conditions.
- The more day-ahead and intra-day markets are linked across borders by implicit mechanisms and continuous intraday trading, the better hourly surplus and deficit situation can be countertraded and the more price convergence can be achieved across Europe is supported.

In a market based way of integration wind energy there is an incentive to react to market prices.

Offering wind generation at a negative price on the market means to be ready to pay in order to sell this energy. This makes sense for some thermal power plants which might face some important costs or technical constraints when they have to stop, but this is much more questionable for wind generation.

Moreover offering wind generation "at any costs", such as this could be interpreted from the priority of dispatching mentioned in Directive 2009/28/EC, would mean offering at -3000 €/MWh e.g. on the German market. The concerned TSO would in this case have to pay potentially huge amounts in order to sell the already purchased (with feed-in tariffs) wind generation. As final customers would have to pay for these inefficient expenses there is no incentive for the TSO to react efficiently and economically to the signals of the market prices while offering wind generation output.

The way in which those big volumes of power are sold on the market by TSOs should also be transparent for all market participants and we believe that all these distortions should be corrected as soon as possible.

Non-discrimination in favour of national transaction when managing congestion

Priority access to the grid is not necessarily compatible with the operation of market mechanisms determined by supply and demand, as required by EU competition law and by legislation creating the internal market in electricity. Renewable energy generators, especially those claiming feed-in tariffs, must incur countervailing responsibilities not to cause avoidable network congestion, especially if it might have the effect of interrupting cross border trade in electricity inside the internal market. It is noteworthy that under Regulation 1228/2003 TSOs are prohibited from giving preference to national transactions (those where purchase and sale occur within a Member State boundaries) over international transactions involving export to or import from another Member State. The outcome of the Svenska Kraftnett case with

extra balancing zones pursued by the Commission under Article 82 of the Treaty is also a good example for the current tendency for TSOs to constrain capacity at the border in the event of constraints within in the grid caused by wind generation.

Renewable energy generation is almost always destined for national consumption according to prevailing national support and/or market rules. In order for TSOs to overcome the inherent tendency to discriminate in favour of transaction in renewable power when they cause congestion, owing to priority dispatch schemes, RES generators should be required to schedule their forecast power production as accurately as possible. In the event of the forecast being wrong or interfering with the use of already allocated cross border transmission rights, or of the submitted schedule otherwise placing too heavy a burden on the interconnected network, TSOs must be given discretion to turn down output, even if payment obligations are not cancelled pursuant to the pertinent national support mechanism.

Enhancement of interconnections

The increased investments in interconnectors will play – as described in the Report – an increasing role to cope with fluctuations of wind generation. A larger amount of firm cross border capacity being made available can therefore support an export of surplus energy.

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?

Gate closure times are a prerequisite for market actions in the day-ahead and intra-day timeframe. Therefore, the day-ahead gate closure time should be kept at 12 am (CET) for all sources of energy. For the intra-day market a gate closure time as close as possible to real time is in the natural interest of market participants as it allows them to use the latest available information to optimize and balance their portfolios. This, in turn, minimizes the need for balancing energy services and contributes to overall low system costs.

Therefore, we agree that moving the intra-day market's gate closure closer to real-time will facilitate the deployment of wind generation, particularly, if the responsibilities for the nomination and for any deviations lie with the producer of wind energy.

Where not yet existent, national and cross-border intra-day markets with 24/7 operation need to be established to facilitate such a gate-closure close to real time (H-1).

Reducing gate closure times will not have adverse consequences for the functioning of the electricity power system, indeed the opposite is the case. The further that gate closure is away from real time, the more likely that market participants' forecasts of wind output will be inaccurate. It will also prevent correct price signals passing through to potential investors in flexible generation and demand response capabilities.

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?

Yes.

If we compare the level of interconnection capacities in area with large shares of renewable generation throughout the recent years, we see a clear downward trend of cross-border capacity levels. This applies particularly, but not exclusively, to long-term capacities. As already described in our answer to Question 2 in section "*Non-discrimination in favour of national transaction when managing congestion*" we also see a risk that national congestion management processes might have a tendency to discriminate cross-border congestion management.

Since the intermittency and low predictability of wind power will always remain a source of volume uncertainty, which requires an adjustment of positions over time, we ask strongly for a higher priority for the development of cross border intra-day markets, where not yet existent in line with the Project Co-ordination Group target model. In this perspective, we urge regulators, TSOs and power exchanges to set up cross-border trading platforms which allow a continuous trading until close to real time (H-1) across various countries.

Question 5:

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

Yes. We would also stress that this includes necessarily the responsibility for nomination and scheduling procedures. As noted earlier, without the same balancing obligations, there is no incentive on wind generators to participate in wholesale markets and this damages liquidity and leads to more volatile and less credible market outcomes. Providing incentives on wind generators to moderate their output so as to manage congestion should not be considered as curtailment in the sense of Article 16 of the Directive.

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 are responsible for safe and efficient operation of networks at the state of art and in a regionally and EU wide harmonized way, we agree with an engagement in research and development in their fields of activities. However, we do not support extensive research departments in TSO companies and we would strongly support cooperation in this field in order to lower the overall costs and to benefit from benchmarking whenever possible.

Question 7a:

Should wind generators face the same types of network charges as other new generators, calculated using the same methodology?

Yes.

Grid operators are required to avoid discrimination between network users. From a network's point of view there might be only a technical, but no economic difference between connecting wind generators and other generators with the grid. Therefore the structure of network charges for wind generators should not be any different from others, whether these relate to connection or use of the system.

Question 7b:

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?

As stated in our answer to question 1 and 2, we recommend establishing a market-based system where renewable generation is also subject to wholesale market prices. Long-term price trends will signal where to locate wind generation best and will lead to a more equal distribution of renewable generation across Europe, compared to the current state.

Effective management of congestion, including incentives on all generators, including wind, to help to reduce constraints, will support locations of generation plant which reduce congestions.

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 harmonisation required?

The main tasks of TSOs are to forecast long-term supply and demand trends and to summarize it in a generation adequacy report. This could also lead to an indication where appropriate locations for new generation would be.

It remains the responsibility of each Member States to contribute to an acceleration of permitting procedures for new lines and new generation but coordinated studies and projects are obviously needed in this field.

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?

Yes. We see TSOs as responsible entities in developing an offshore grid if it can be proven to be beneficial for the general public. An investment will be made by the TSOs if the financial incentive and the regulatory framework are sufficiently attractive where we have some doubts.

A practical way might be to create a separate operator of an offshore grid, financially supported by interested TSOs. CAPEX and OPEX costs of the offshore network should be incorporated into national grid charges; a fair treatment within the Inter-TSO scheme is to be safeguarded.

Due to the principle opportunity to in-feed offshore generated power in the network of different countries, we consider such an offshore network as the main driver

- to harmonize RES support schemes and transform them into a market-based approach;
- to harmonize wholesale market design features to make best use of such a network.

In the long-run, we think that several offshore wind farms will compete with each other on scarce in-feed rights in the direction of a country with the highest market price. However it should not be forgotten that on-shore investments (super grids?) will also be needed to completely achieve the internal electricity market.

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?

Ownership is not relevant as long as a full third party access is guaranteed especially in cases where the offshore lines could - in addition to linking specific wind parks with the onshore network - also be used for the transmission of power from other wind parks or from or to other countries.

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?

We recommend not overloading the Regional Initiatives with further tasks. The Regional Initiative could optimally contribute to renewable generation if they complete their current action plans as follows:

- Establishment of a one layer single step matching day-ahead price coupling: the more countries with different types of generation the better;

- Establishment of national and cross-border intra-day markets where not yet existent: implicit continuous trading with gate closure close to real time (H-1) as a tool to facilitate the use of the remaining trading potentials across countries and to balance portfolios;
- Amendment of regional transparency reports with the latest available wind power in-feed forecast to be released before day-ahead market gate closure and in a certain interval also intra-day.

Question 12:

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

The Directive 2009/28/EC foresees the option for Member States to apply cross-border flexibility mechanisms such as statistical transfer, joint projects and joint support schemes (Art. 6 to11). These flexibility mechanisms, mainly joint support schemes, clearly support cross-border harmonization leading to more efficient utilization of wind energy. Any support and guidance also from European regulators for these mechanisms will help Member States to apply these options also in the current phase of implementing the Directive.