



EDISON RESPONSE TO CEER PUBLIC CONSULTATION ON REGULATORY ASPECTS OF THE INTEGRATION OF WIND GENERATION IN EUROPEAN ELECTRICITY MARKETS

General remarks

Edison shares CEER's view on the need to design new market and network arrangements to guarantee the integration of wind generation. European energy and climate policy targets call for strong efforts in the deployment of new generation capacity from renewable energy sources and wind generation will play a major role in reaching this target. However, the technical and economic characteristics (intermittency, small plants, low short run marginal costs etc.) of this kind of technology require the action of regulators in order to define role and responsibilities of the actors involved, notably producers and TSOs. This action should be clearly aimed at ensuring the correct allocation of investment risk avoiding on the one hand any undue burden on producers and on the other hand any excessive distortion in the correct functioning of the electricity markets.

The integration of wind generation brings about some problems related to ownership and management of interconnections to the existing grid, dispatching regimes and authorization procedures. Therefore, a certain degree of harmonization across European countries would be useful to increase the level of investment security while boosting market integration. However, European markets still differ in some peculiarities and the level of development which prevent the same solutions to be effective all over Europe, thus limiting the suitability of a standardization process of market and network arrangements across European countries.

Who we are

Born in 1881, Edison, one of the oldest energy companies in Europe. When the national monopoly on electricity was established in Italy in 1963, Edison had to diversify its business, but thanks to the first wave of EU Directives in 1996, it could re-focus its business on energy once again. Today Edison is the leading new entrant in the Italian energy market, with 50,2 billions kWh produced in 2008 and a market share of 16,4% of national output. Thanks to 7.000 MW of new highly efficient and low emission plants (CCGT thermo plants, as well as hydro and wind power plants),



the Company has now a total installed capacity of more than 12.000 MW. In 2008, Edison reported revenues of 11.066 mln €

Thanks to one of the most ambitious investment plans in Europe, Edison aims at becoming the second largest electricity company in Greece through the recently established joint venture with Hellenic Petroleum. As shown by the recently approved Business Plan (2009 – 2014), Edison will invest 7.2 billion euro in natural gas (exploration and production activities, in major gas import infrastructures, such as the Rovigo LNG offshore re-gasification terminal and the ITGI-Poseidon and GALSI pipelines) and in power generation sector, with a particular focus on renewable energy sources (hydro and wind power allow the Group to cover over 40% of the green certificate requirement with its own production). Other investments will constitute strategic developments in fast-growing markets, such as Greece, Romania and Turkey. As from 2009 the new offshore LNG terminal in Rovigo will contribute to the diversification of the country's supply sources with its re-gasification capacity of 8 bcm of natural gas a year, equal to 10% of Italy's demand for natural gas. In 2012 there will be the start up of GALSI and ITGI pipelines, which will connect Italy and European markets to Algeria and Caspian Sea, two areas rich in hydrocarbons.

Answers to CEER discussion points

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

The growth of wind generation in the Italian market, so as to reach the target of 17% of energy consumption from renewable energy sources, will entail the solution of the following issues:

- Management of dispatching and reserve capacity.
- Ownership regimes for the interconnections of wind farm with the existing grid.
- Adaptation of the existing electricity network: more frequent congestions and redispatching costs.
- Authorization procedures.



- Impact on investments in power generation: existing and future conventional plants will operate under different market conditions, economic equilibria and risks.
- Impact on operating costs: lower operating hours for conventional power plants, more frequent start-ups for flexible plants.

A strong effort from national regulatory authorities is thus required in order to guarantee the coordination at national level between different support schemes (local, national etc.) for electricity generation from renewable energy sources.

We foresee the following key challenges:

- Urgent integration of wholesale markets, especially on shorter timeframes such as Intraday and Balancing markets.
- Huge amount of grid investments (extensions, reinforcements and modernisation in Transmission & Distribution) needed to connect wind farms to demand centres and areas with balancing resources and to alleviate increasing bottlenecks and loop flows.
- Need to improve forecasting tools and clustering techniques connect wind farms at local level in order to improve the predictability of wind generation output.
- Need to guarantee enough flexible generation and back-up capacity.

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

The integration of wind generation requires some changes in those market rules which can be a heavy burden to producers, since they don't take into account the intermittency of this energy source. For instance, when TSOs refuse to dispatch electricity produced by wind farm in case of excessive supply, rewarding mechanisms should be strictly cost reflective. In addition, incentives for investments in electricity storage could facilitate the management of intermittency in electricity production by wind farms.

We believe that current market rules were designed for a generation mix considerably different from the one we are evolving towards in 2020 and beyond. In particular, market rules may have to be reviewed to cope with the introduction of priority dispatch and guaranteed access to the grid for RES-E.



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?

Capacity allocation mechanisms closer to real-time delivery (intraday timeframe) should be considered a priority in the development of a European electricity market capable of integrating wind generation. This would allow to minimize the use of reserve capacity, lowering balancing costs, and to improve load forecasts which can contribute to increase security margins in grid management.

However, we believe that developing liquid and integrated cross-border intraday markets, based on continuous trading platforms, is more important and should be the priority for all European electricity markets.

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?

Edison agrees with CEER about the opportunity of the development of intraday capacity allocation mechanisms (i.e. implicit allocation in intraday) and markets, accompanied by cross border balancing capacity. These mechanisms should be complementary to day-ahead capacity allocation in order to curb high imbalance costs connected to the intermittency and low predictability of wind generation.

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

Edison believes that the cost reflectivity of balancing arrangements should be ensured in order to provide producers with the same balancing incentives of other types of generation. However TSOs should provide adequate services (e.g. reserve capacity etc.) and operational rules which enable wind generation to be integrated within the electricity market. Furthermore, Edison thinks that a minimum degree of cross-border harmonization should be ensured with regard to balancing obligation and charges.



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?

Yes, engaging in R&D is an important role TSOs and DSOs should cover as market facilitators.

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?

The productivity of a wind farm is strictly correlated with environment and weather conditions of a particular area. Therefore, support schemes and market or network arrangements which influence the location of plants and the allocation of investment risk should avoid any distortion in the cost-effective use of this energy source.

Thus, in Edison view, an accurate monitoring of methodologies established by national TSOs for the allocation of connection costs is of paramount importance in order to detect any possible distortion leading to inefficient development of wind generation.

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?

TSOs should play a proactive role in planning and developing the network with a long term approach, considering that it takes much longer to build lines than wind farms. Planning of network expansion shall take into account existing scenarios of expected installations both in RES and in conventional generation. Moreover investment and licensing timing of RES installations and grid development should be aligned. In order to minimise risks for investors and reduce inefficiencies, we cannot afford to have RES installations ready when there is no connection available yet (or vice versa).



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?

Edison welcomes the efforts towards electricity market integration through the reinforcement of interconnections among Member State’s grids. Nevertheless we strongly believe that these investments in infrastructures should be deployed within the framework of defined economic model for the development of a European “supergrid”. As highlighted by CEER this model should pay due attention to the allocation of the costs connected to these investments, also taking into account their efficiency and the cost-effectiveness, also in terms of benefits produced.

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?

Edison believes that Regional Initiatives could help to address the issues associated with the development of regional projects through the unique opportunity to rely on a close involvement of stakeholders who have a deep understanding of market dynamics. Therefore the bottom-up approach which characterizes the Regional Initiatives is of utmost importance as a fundamental input in the implementation of a coordinated approach towards the harmonization of rules and the realization of new interconnections across EU energy markets.

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

Authorisation procedures are another major issue to be considered by European regulators.

We unfortunately observe that obtaining authorizations for major network reinforcement projects can often be an inefficient and slow process where the consideration of applications can take many years, and the process often involves lengthy discussions over the ‘need’ for a particular type of infrastructure, rather than focusing on the specifics of the proposed project. In most countries, this leads to an authorization process for major network reinforcement projects which takes, on average, around 5 and, often, over 10 years. If this practice is not interrupted, European energy policy targets will be seriously compromised.