

EUTurbines Position on the proposals for a new electricity market design for Europe

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In Brief

EUTurbines welcomes the effort to adapt the electricity market design to the new market reality. The key element of the reform is the recognition of the need for flexibility solutions to balance the variable renewable energy sources as main contributors to a decarbonised energy system.

Flexible dispatchable thermal power plants can provide a considerable share of this flexibility, but need a market framework which ensures that, during a limited number of operating hours, investment as well as operating costs can be recovered. For this purpose, the short-term market prices have to better reflect scarcity. Other tools like capacity mechanisms may be needed, but must reward flexibility and not simply capacity.

The design principles for capacity mechanisms need further clarification regarding the suggested CO₂-limit for power plants participating in such mechanisms. This is needed to avoid that also smaller flexible gas-fired power plants, highly-efficient cogeneration and/or biofuel use are excluded.

For EUTurbines, the central part of the Clean Energy Package, presented by the European Commission end of 2016, is the revised framework for the European electricity market, defined in a regulation and a directive (COM (2016) 861 & 864). While several other legislative parts of the package are also linked with the electricity market reform; additionally, the other relevant element for EUTurbines is the recast of the renewable energy directive (COM (2016) 767). The content of this position paper mainly refers to these 3 legislative proposals.

1. Time for a change – adapting to the new market conditions

EUTurbines appreciates the proposal as an effort to take the drastic changes on Europe's energy market into account and adapt the market organisation for electricity markets.

The existing electricity market framework was designed for a system dominated by large conventional power plants, mainly closed national markets and with the intention of actively supporting the growth of new renewable energy sources.

The past years have brought an enormous change to the supply-side of the electricity system. Following political priorities, Europe has massively supported the deployment of renewable energy sources. The visible effects are a clear increase in overall electricity generation capacities, a drastic decline of wholesale electricity prices, as well as the deployment of now cost-competitive generation technologies for renewable energy sources with a clear focus on wind power and photovoltaics.

The result is an energy system with two key challenges which need to be tackled by the market design revision:

- **The Flexibility Challenge:** The by far largest share of additional renewable energy comes from variable wind power and photovoltaics. These need a complementary solution to back them up and ensure the balancing of demand and supply – also at times, when there is no sufficient sun or wind.
- **The Investment Challenge:** Priority dispatch of renewables and low variable costs for nuclear and coal-fired power plants have driven flexible dispatchable thermal power plants to the end of the merit order curve, reducing their operation time and avoiding that these systemic power plants can be operated profitably. Consequently, more and more EU Member States find it difficult to attract sufficient investments in this technology.

2. Decarbonising the energy sector needs a consistent approach

EUTurbines fully supports the target of significantly reducing the greenhouse gas (GHG) emissions related to the energy system. Flexibility and further decarbonisation are closely linked. Not only are flexible back-up capacities a prerequisite for further growth of variable renewables, but also replacing old inflexible power plants with flexible load-following gas-fired plants results in a considerable further reduction of GHG emissions.

For that purpose, EUTurbines has always supported the establishment of an ambitious and functioning EU Emission Trading Scheme (ETS), which sets strong incentives for investments in highly efficient, low-carbon technologies. Today, the EU ETS does not deliver these incentives. EUTurbines calls on all legislative partners to make the reform of EU ETS a success and ensure a consistent approach, avoiding the creation of uncoordinated tools. Should additional measures be deemed necessary, general and ETS-compatible solutions like a carbon-floor price or a carbon-tax at EU-level could be considered.

In addition, positive incentives should accompany the process. These incentives should not only target renewable generation but any kind of valuable contribution to reaching the GHG reduction targets. They can be included in the electricity market design, but EU R&I funding and investment programmes should also reflect this approach and support the ambitions to further reduce GHG emissions.

3. Efficiency First – not only a consumer topic

EUTurbines welcomes the “efficiency first” target of the Energy Union. However, that priority should address not only the consumer, but also include the transmission, the distribution as well as the generation side.

The European thermal power plant industry has made tremendous efforts in increasing the efficiency of their power plants. The industry understands and supports the new focus on its flexibility capabilities which make thermal power plants an ideal partner to variable renewables. However, it should not be forgotten that improvements in the efficiency of thermal power plants can massively contribute to increasing the overall energy efficiency of the system and, by this, reducing GHG emissions.

Furthermore, gas and steam turbines are optimal technologies to recover waste heat, cold and gases from industrial processes, further improving their energy efficiency.

4. A connected energy sector needs connected solutions

There is a growing understanding that reducing the carbon intensity of the energy sector cannot be achieved by curbing emissions on electricity generation alone. Instead, the decarbonisation of heating and cooling as well as transport are equally important, although far less developed.

Thermal power plants are contributing to the decarbonisation of heating via the efficient supply of heat to district heating systems as well as heat and cold to industrial purposes. Co- or tri-generation have boosted energy conversion efficiencies and can contribute to a further reduction of the carbon footprint of the heating sector.

A promising contributor to Europe’s decarbonisation efforts is power-to-x, the transformation of excess energy into other products. There is a multitude of opportunities, which need further exploration. Power-to-gas could be an option to provide dispatchable flexible gas power plants with carbon-free hydrogen while using the existing gas grid as a large seasonal energy storage solution. Other power-to-fuel approaches produce further low-carbon fuels based on excess electricity, which can either be used in the transport sector or re-converted into electricity – avoiding curtailment of renewable sources and preventing stranded investments. In the same way, power-to-heat together with large-scale heat storage integrated in highly efficient Combined Heat and Power plants creates both plant flexibility and reduces emissions by allowing an optimised plant operation.

EUTurbines regrets that the proposal does not sufficiently consider the advantages of better connecting the electricity system with the gas network and heating systems. This could greatly contribute to solving the challenges of the future European energy system.

5. Flexibility – a new key ability for the power system

EUTurbines fully supports the attempts of the European Commission to set incentives for investments in flexibility solutions. Europe’s increased share of renewable energy is mainly based on the deployment of variable sources like wind power and photovoltaics. Accordingly,

the energy system of the future – unlike the system of the past – has an imminent need for seamless balancing of supply and demand when there is a lack of wind and sun. To do so, Europe will need different kinds of flexibility options, from very short-term balancing to seasonal storage solutions, addressing the challenge of cold dark doldrums. The electricity system of the past did not reward this key ability to stabilise the grid – on the contrary, inflexible but cheap generation had and still has cost advantages.

Rewarding flexibility can be done in multiple ways. When selecting the right incentives for investments, it should be kept in mind that different flexibility types are needed and that they cannot all be provided by a single technology. The EU should strengthen and promote the technology-neutral competition of flexibility solutions, may they be flexible generation, improved interconnections, storage or demand-response.

6. The functioning of short-term markets must be improved

EUTurbines appreciates the proposals aiming at improving the functioning of the short-term wholesale markets for electricity. Due to price limits and a multitude of exemptions, today's wholesale market prices do not reflect the real needs. Making the market work means reducing these limitations to the absolute minimum:

- **Abolishing price caps as well as minimum limits (Art. 9):** This is regarded as an absolutely essential step to achieve scarcity pricing, which, in turn, is the key to reward flexibility solutions and incentivise private investments.
- **Balancing responsibility for all (Art. 4):** A continued exclusion of certain participants from the duty to pay a financial compensation for the imbalance they cause to the market by not fulfilling their agreed obligations, would undermine their motivation to avoid unnecessary imbalances. A market for hedging products (Art. 3 & 8) allows even smaller suppliers to minimise their risks. An exemption for aggregators is therefore not justified.
- **End of priority dispatch (Art. 11):** With electricity from variable renewable energy sources becoming the “new baseload” and the cost-competitiveness achieved for these technologies, there is no reason for priority dispatch anymore – except for very small units. The different electricity sources should compete in a non-discriminatory way.
- **Market-based mechanisms for redispatch and curtailment (Art. 12):** As suggested in the Commission's proposal, a technology-neutral selection of the best matching option for necessary curtailment or redispatching shall be the standard procedure.
- **Balancing energy: priority for open market-based tendering (Art. 36 & 54):** Whenever possible, TSOs as well as DSOs should be obliged to procure balancing energy from the market. Storage solutions, which compete with generation technologies in providing balancing energy, should not receive a preferred status and, as suggested by the Commission's proposal, should not be owned or operated by DSOs or TSOs – unless the market does not provide the required balancing energy.

7. Rewarding flexibility – not pure capacity

EUTurbines believes that ensuring the stability of the grid with a high share of variable renewables and less coal-fired power plants will only be achieved over the next decades with the support of dispatchable flexible (gas-fired) power generation. These plants will mainly act as back-up with a limited number of operating hours. Storage and demand-response will not fully replace this need in the foreseeable future.

While allowing scarcity pricing in times of supply shortage will be an important contribution to achieve the profitability of flexible thermal power plants, it has to be feared that this will probably not be sufficient to give investors the confidence in an adequate return on investment – and trigger the necessary investment decisions. This especially also relates to new solutions contributing to further lowering GHG emissions.

In these cases, Member States often regard capacity mechanisms as a suitable remedy. In such situations, it must be ensured that these mechanisms do not simply support any type of capacity, but – in a technology-neutral way – reward the abilities needed for ensuring grid stability.

EUTurbines requests the inclusion of a statement defining these abilities – flexibility and availability – as essential requirements to qualify for capacity mechanism payments. Like this, it will be avoided that payments are made to old, inflexible plants not matching the flexibility needs of the future system.

Similar considerations should apply for adequacy assessments. EUTurbines welcomes the proposal to harmonise and refocus adequacy assessments. However, when evaluating the adequacy of resources, the ability of the different solutions to solve the upcoming challenges must be considered. This should explicitly cover the aspects of flexibility and availability.

8. Avoiding the exclusion of small flexible gas plants from capacity mechanisms

EUTurbines is concerned that the impact of the CO₂-limit for generating capacities participating in capacity mechanisms, as foreseen as design principle in Art 23 (4), has not been properly evaluated. In combination with a lack of definitions, EUTurbines sees a danger that, unintendedly, also necessary dispatchable gas-fired power plants will be excluded – plants, which would be key components for ensuring the security of supply via capacity mechanisms.

For this reason, EUTurbines urgently requests that a simple, transparent calculation method to evaluate capacities participating in capacity mechanisms is defined in the regulation or, at least, via a delegated act. The calculation should be based on the application of existing recognised CEN or ISO standards (like ISO 3977-2 for gas turbines – Part 2: Standard Reference Conditions and Ratings), defining the measurement and the ambient conditions. Additionally, generation capacities operated with renewable fuels and those operating in high-efficiency cogeneration plants shall be exempted.

About EUTurbines

EUTurbines is the European industry association representing all leading gas and steam turbine manufacturers in Europe. The member companies represent a business volume of 25 billion Euro and directly provide jobs for 70,000 employees in Europe.