

CONSULTATION RESPONSE

Electricity market: reform of the EU's electricity market design

Bellona Europa's position on the Proposal from the European Commission for a revision of the Electricity Market Design

Introduction

Bellona welcomes the initiative of the Commission to revise the European electricity market design. The recent spike in prices, led by the current geopolitical circumstances, as well as the massive transformation required by the energy transition, make this reform timely and needed.

Many of the elements in the draft presented by the Commission represent a move in the right direction towards a fairer electricity system with more consumer protection, able to integrate an ever-increasing share of renewable generation.

However, some of the provisions should be strengthened to ensure that a system is put in place that can take full advantage of the opportunities created by the transition and will support a fair and effective decarbonisation of the energy sector.

Providing favourable investment conditions for renewables

The proposal from the Commission strives to create an environment in which renewables can have long-term guaranteed revenue streams in order to reduce risks of investment, thus reducing costs of capital and hence total costs. It does this by making Power Purchase Agreements (PPAs), Contracts for Difference (CfDs) and forward markets the default revenue streams for most of the renewable generation projects as opposed to volatile revenue coming from bidding in the system with other generation in the day-ahead market.

However, the current proposal requires revenues coming from two-way CfDs to be returned to consumers in proportion to their consumption. This fails to recognise the disproportionate effect of high prices on vulnerable residential customers and other small consumers such as SMEs.

Bellona considers it more appropriate to earmark this revenue to provide financial protection for vulnerable small consumers. Moreover, funds should also be used to finance actions that are under-provided for by markets and that benefit vulnerable households and small enterprises. This will benefit the entire electricity system, and in particular improve energy efficiency.

Financing investment on grids to ensure renewables can reach maximum penetration

Grids have a vital role to play in increasing renewables' penetration in the European power mix. The proposed text provides a mandate to consider both capital and operational expenditure of Transmission System Operators (TSOs) and Distribution System Operators (DSOs) in tariff methodologies under the revised article 18. This move to provide appropriate incentives over both the short and long term is a step in the right direction to allow grid developers to increase investments in smart operations such as demand side response and flexibility measures. This will, in turn, lead to the ability to integrate a higher share of renewables in the grids. Moreover, the possibility of including anticipatory investments in grids in these methodologies will channel revenue streams into the deployment of grid assets.

Nevertheless, the crucial role that grids will play in a renewable energy electricity system, particularly in enhancing energy efficiency, ensuring supply security, supporting flexibility services, and facilitating demand response activities, is currently not receiving adequate recognition.

Excessively long grid connection permitting processes constitute a significant obstacle to the deployment of renewable generation projects and the overall electrification of the economy. The revised RED introduces maximum durations for public authorities to perform the due environmental assessments and provide permits. However, this is limited to renewable generation projects and their connection to the grid. Grid connections for electricity users, such as industry and EV charging stations, undergo similarly lengthy processes but were not facilitated under the last RED revision.

The electricity market design reform represents the perfect opportunity to broaden the reach of such a measure, to facilitate other system-supporting resources such as grids, by introducing a similar maximum duration of permitting procedures .

Moreover, **incorporating locational considerations, particularly in Article 19, into the design of Contracts for Difference (CfDs) and flexibility support systems would provide the market with signals to improve the siting of new generation investments.** By utilising locational price signals, project development can be directed to locations with ideal network hosting capacity, taking into account grid congestion and proximity to electricity demand. While locational price signals aim to incentivise market participants to adjust their behaviour accordingly, it is key that the new text shields vulnerable consumers exposed to price shocks, by providing the necessary support.

Finally, the inclusion within Article 19 of **transmission access guarantees** for offshore wind will incentivise the deployment of adequate grid capacity to ensure that the electricity generated by these assets does not get curtailed. **Expanding such provision to other renewable generation assets, such as onshore wind farms and solar farms, would increase the effectiveness of this measure.**

Ensuring the most efficient use of every KWh

Bellona welcomes the Commission's proposal to move beyond fossil gas peakers. Incentivising alternative peaking systems that do not rely on fossil fuels is key to approximate a system that runs entirely on renewables.

However, not all alternative technologies provide the same service to the system. Efficiency is the key measure to consider when prioritising deployment/investment and use/remuneration of flexibility assets. When comparing, for instance, battery storage to hydrogen peakers, the efficiency difference is significant. Because of the high energy losses due to the changes in energy vector (electricity is turned into hydrogen, which is then turned into electricity again), a gas peaker running on renewable hydrogen [produces roughly a third of the electricity it consumes](#). However, market distortions arise because of the high levels of subsidies that hydrogen receives when compared to other options. Therefore, the inefficiencies of hydrogen might not be reflected in the costs of running a power plant on this fuel. **Consequently, capacity remuneration mechanisms must consider, in their prioritisation system, a qualitative distinction based on the efficiency of the technology beyond its market price.**

Moreover, although hydrogen can potentially play a role in meeting peak demand, this is likely significantly different from the demand side response and storage systems such as batteries and thermal accumulators. Hydrogen typically operates over longer timescales, shifting electricity

availability from season to season. **Consequently, it should be supported separately and account only to fulfill the needs of seasonal storage under Article 19c.** Moreover, it is imperative that the need for such seasonal storage is minimised through load shifting, and since using hydrogen for seasonal storage comes at a big cost both in terms of efficiency and in terms of infrastructure deployment.

Any support for using hydrogen in system balancing should be conditional on the hydrogen conforming to rigorous low-carbon hydrogen standards. For reference, the UK has already established a standard of 20g CO₂e/MJLHV of produced hydrogen. Similarly, the EU should ensure that peakers running on hydrogen can use exclusively hydrogen that can qualify as renewable under the RFNBOs “additionality” delegated act or produced from fossil methane and carbon capture and storage (CCS) with very high CO₂ capture rates and very low upstream methane emission leakages.

Incentivising demand side flexibility to shift demand to when renewables are abundant

While each Member State having to define an indicative **national objective for demand side response and storage in their NECPs** is a step in the right direction, the assurance that actions are taken to meet these targets is low. **Making these objectives binding would be a significant positive step.** Even if required levels of storage and demand side response are set directly by the market requirements in the future, the current high penetration of dispatchable electricity produced with fossil fuels entails that carbon-intensive technologies can provide these services at the moment. **Therefore, today, specific and binding targets are needed for the transition to a carbon-free, flexible and robust system.**

Moreover, by providing a clear and robust definition of flexibility, the legislation would ensure a common understanding of what this entails, minimising any ambiguity or misinterpretation. This clarification would empower stakeholders and policymakers to effectively implement measures that promote and incentivise the adoption of demand side response providing the needed flexibility to the system.

Finally, the revised text should aim to eventually incorporate measures that hold all renewable support schemes, such as Power Purchase Agreements (PPAs) and Contracts for Difference (CfDs), accountable for securing demand-side flexibility. This can be achieved by encouraging measures that appropriately value the temporal alignment between the supply and demand of green electricity. To ensure this alignment, **the adoption of 24/7 guarantees of origin mechanisms should be incentivised by this reform, fostering real-time matching between flexible consumption and renewable electricity generation.**

Key policy recommendations for a more renewables friendly Electricity Market Design

- **Provide favourable investment conditions for renewables while:**
 - *Earmarking the revenues from two-ways CfDs for investments in energy efficiency for vulnerable consumers*
- **Finance investment on grids to ensure renewables can reach maximum penetration by:**
 - *Introducing maximum duration of permitting procedures for connecting electricity users to the grid*
 - *Incorporating locational considerations into the design of CfDs and flexibility support systems*
 - *Expanding the scope of transmission access guarantee provisions to other renewable generation assets beyond offshore wind*
- **Ensure the most efficient use of every KWh by:**
 - *Introducing in the prioritisation system of capacity remuneration mechanisms a criteria based on the efficiency of the technology beyond its market price*
 - *Supporting and remunerating separately short- and long-term non-fossil electricity storage solutions*
 - *Requiring rigorous low-carbon hydrogen standards for any support for using hydrogen in system balancing*
- **Incentivise demand side flexibility to shift demand to when renewables are abundant by:**
 - *Making national objectives for demand side response and storage in Member States' NECPs binding*
 - *Providing a clear and robust definition of flexibility*
 - *Incentivising the adoption of 24/7 guarantees of origin mechanisms*

About Bellona

Bellona Europa is an independent, non-profit organisation that meets environmental and climate challenges head on. We are solutions-oriented and have a comprehensive and cross-sectoral approach to assess the economics, climate impacts and technical feasibility of necessary climate actions. To do this, we work with civil society, academia, governments, institutions, and industries.

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