

ACER pre-consultation on “Energy Regulation: A bridge to 2025”: Electricity Paper

Contribution by Enel

1. Although adequacy issues are not likely to disappear completely, do you agree that the current primary focus on levels of adequacy will likely be expanded to emphasise a later priority focus on flexibility?

In view of the increasing role of intermittent generation, flexibility is and will increasingly be considered as a key issue in the energy systems. First of all it is important to clarify that flexibility is not an issue that concerns only the generation segment. As ACER correctly pointed out in these papers, it is the whole energy system (i.e. generation, transmission, distribution and retail sectors) that has to become more flexible (or less rigid) and able to adapt to a new and changing environment. Therefore, flexibility should be considered as a desirable characteristic for all segments of the power systems in the broad context of market design and should not be opposed to generation adequacy. Both are strictly correlated and represent two major aspects of the same objective: security of supply.

More specifically, security of supply at generation level can be broken down into 4 major components which have different time horizon perspectives: (i) security/stability, a very short-term issue intended as the ability to support unexpected disturbances; (ii) firmness, a short to medium-term issue intended as the ability of already installed capacity to supply electricity whenever needed; (iii) adequacy, a long-term issue that extends the firmness concept including the expected capacity to be installed; (iv) strategic expansions which concerns the very long-term availability of energy resources and infrastructures. Flexibility should be considered a key characteristic of each component of security and a priority in all timeframes, not in opposition to adequacy.

At short-term level, flexibility is addressed in dedicated market timeframes: it is provided through the intra-day, ancillary and balancing services. The increasing volume of intermittent generation will require further services of flexibility but this does not necessarily imply the need of major market upheavals but only targeted market adjustments. Additionally, further integration of renewables into the market should be prioritized creating a level playing-field for these sources.

As mentioned above the generation segment is not the only sector that has to play a role, transmission and distribution networks can provide an effective support to optimise future power systems with respect to flexibility requirements. For instance, transmission can reduce system variability by increasing the geographic spread of all generation deployment

(e.g. system-wide aggregation to smooth out the peaks) and by ensuring an optimal use of interconnection capacity. On the distribution side, smarter infrastructures enabling DSOs' management of active grids could be useful. Furthermore, demand-side flexibility has the potential to offer a range of advantages to energy sector participants, such as reduced system/consumption costs, enhanced generation adequacy and additional flexibility, particularly in relation to accommodating increasing volumes of intermittent renewable energy sources.

Having said that, market design has to be adapted to the new challenges and the adequacy component should be properly addressed. While we acknowledge that RES policies have played a positive role in progressing towards the EC climate change objectives, the expansion of RES has produced distortive effects on the functioning of wholesale markets, in particular with respect to the price formation and the operation of back-up plants. This not only brings new challenges to the current market design and the effective implementation of the third energy package but it also negatively affects the investment framework and adequacy as investment decisions risk to be made primarily on the basis of the level of support rather than the market price signal.

Following these considerations, we believe that the European electricity target model should be reviewed and based on two pillars: energy product (MWh) and capacity product (MW). In this respect market-based capacity remuneration mechanisms (CRMs) should play a complementary role to energy markets and be integrated in the future target model.

Energy is not the only product that consumers require, capacity as well is a service required by consumers which should be remunerated as such. Nowadays, with a significant and increasing share of volatile energy sources with almost no variable cost, the value of the energy product is decreasing dramatically reaching levels that do not allow to remunerate existing capacity or incentivize investments in new capacity.

At the same time, we acknowledge the importance of moving forward at the EU level to reach properly functioning and competitive energy markets and increase cross border interconnection. To this end policy makers need to address key areas including removing the various remaining distortions such as end-users regulated prices, stepping up efforts in integrating electricity markets, bringing RES into the market.

- 2. Should we seek to further define, measure and develop flexibility in addition to the initiatives that are underway? If so, how could this best be done and in which market time periods?**
- 3. What are the market-based routes for flexible 'tools' to participate?**
- 4. What measures may be required to ensure that the market receives the most appropriate signal for the value of flexibility?**

5. Do you think that other, for example institutional arrangements should be considered? Is greater TSO and DSO coordination required? If so, what should NRAs do to facilitate this?

ANSWERS 2-3-4-5: Flexibility can be defined as the capacity of a system to change in a “fast” way the quantity of electricity that is consumed and/or produced. Until this moment, electrical systems were load-follow-demand, therefore flexibility has been provided only through generation units. Recently, the development of smart meters and demand-response measures increased the possibility to supply flexibility from demand sources. In addition, with the development of RES production, demand for flexibility has increased drastically.

Having said that, European Institutions and National Regulatory Authorities (NRAs) must work in order to facilitate the introduction of flexibility tools. First of all, flexibility should be addressed through the effective integration of balancing markets. In 2009, when the Florence Forum endorsed the electricity target model, the Balancing timeframe was not considered a priority and has been left out from the target model design. The new challenges and the new momentum for a review of the current target models should be seized to reconsider the role of the balancing timeframe and accelerate the process of integration. In this context, given that the NC on Electricity Balancing introduces a lengthy process for the creation of an integrated European Market, ACER should facilitate the implementation of interim BSP-TSO agreements in order to fully utilize the economic benefits related with market integration also in the short-run. Secondly, policy makers and regulators must avoid the introduction of new subsidies and leave the remuneration of flexibility to market tools. In particular, NRAs should ensure a level-playing field for all players participating in markets where flexibility is valued. For this reason, it is fundamental to define different products in the ancillary service market (e.g., in terms of notice period, notice to sync, mingen, minimum run time, minimum shut down time, ramp rate, etc...). In this way, the market is able to provide the right signal for the type of flexibility needed by the system.

Moreover, flexibility could be also developed and valued within the day-ahead and intraday markets via the implementation of the Capacity Allocation and Congestion Management (CACM) network code.

As for the need for new institutional arrangements, we believe that the coordination among DSOs and TSOs and information exchange will play a more and more important role as the amount of distributed energy resources - mainly connected to the distribution system-increases. DSOs will need more information and active management capacities to be able to manage their networks. Consequently, in the future a well-structured and organized information exchange between relevant actors is necessary, so that both TSO and DSO have all relevant information close to real-time to maintain network stability. Clear tasks and

responsibilities should be established and regulators should clearly set boundaries between regulated and deregulated activities. Products and services used to maintain stability of the grids must be procured from the market.

6. How should regulators facilitate demand side participation (including demand side response and electricity storage)?

7. How can NRAs support, or incentivise TSOs and DSOs to invest in 'smart networks'. What actions are needed, in particular from regulators, to promote more active distribution networks? Do we sufficiently reward avoiding 'dumb' investments?

ANSWERS 6-7: A Demand response should be placed under similar conditions as generation to guarantee a level playing-field, without any particularly favourable condition. Demand will have to participate either directly or indirectly (i.e. aggregators) to scheduling and programming. If the demand does not respect its scheduling, it must pay imbalance charges. This market rule will give incentives to make demand participate fully in the market.

Concerning electricity storage, we believe that it is a valuable mean to ensure flexibility on a market-based level and in competition with other sources. Storage technologies providing ancillary services equivalent to those offered by generation assets should be developed by market participants and participate in the market. Mechanisms to support not commercially viable projects should not be envisaged.

Concerning investments in distribution grids, currently in some countries DSOs remuneration is even too low to recover total costs. If in the future we want to allow active participation of demand it is essential that DSOs (to whose grids the majority of demand is connected to) have the right incentives to invest in particular in innovative infrastructures such as smart meters and smart grids, including telecommunication and adequate forecast and management software.

Regulation could be adapted to promote the introduction by TSOs and DSOs of flexible contracts (such as direct load control programmes, Interruptible supply contracts) through which customers accept reductions in maximum capacity that could be used when there is significant stress in the system. In particular, DSOs should be rewarded for adopting the most suitable solutions in the long run.

8. How should NRAs influence the competition debate, for example on support schemes, regulated tariffs, capacity remuneration mechanisms, etc?

RES support schemes based on payments for MWh injected in the grid shield RES producers from market price signals. RES producers, who receive the incentives regardless of market conditions, will inject energy in the grid even when the price signal is zero or even negative (up to the level of the premium). Clearly, the distortive effect on RES producers' behaviour

on energy markets varies depending on the specific form of support (FiT, FiP or green certificates).

Efforts should be made to figure out mechanisms which allow for a full exposure of RES generation to market price signals, making RES generators more reactive to price signals, putting them at a level playing field with the rest of market participants, and thus fostering the correct functioning of the electricity market and its dynamics.

For instance, less distortive alternatives may include subsidies aimed at relieving the upfront capacity investment, instead of production. Such mechanisms would not affect priority of dispatch since the very low variable cost of most of RES technologies allow for a natural priority in the merit order, even when they should bid at their variable cost of production. Moreover, such mechanisms could be designed in such a way that their burden is placed on the state budget, instead of electricity bills.

9. To what extent should the relationship between competition in electricity and gas markets influence regulators' activities? Could regulatory action on the gas market, help solving the flexibility problem of the electricity market?

10. How should regulators remove barriers to entry for new supply sources?

11. What actions, identified in these papers, should regulators prioritise?

ANSWER 11: Particular emphasis should be put on the need of adapting the market design to current and future challenges the power systems are going to face. Most notably, the cost structure will increasingly be characterized by larger portion of fixed costs and energy-only markets are proving their inadequacy to deliver stable, predictable and long-term price signals for investments.

In light of such a context, Enel supports the idea that the European electricity target model should be reviewed and consider market-based capacity remuneration mechanisms (CRMs) as a pillar of future market design. The way forward is to re-think the European market design by allowing the implementation of sound and coordinated (in terms of structures and approaches) market-based CRMs across the EU and its borders. Properly designed CRMs are a market design option that can complement energy markets in a stable and long term manner as well as an important tool to bridge a secure transition to decarbonisation. The key arguments, highlighted by many including NRAs, rely upon the potential role of imperfections, failures and real conditions of European electricity markets (far from the ideal ones). Market based mechanisms appear frequently to be the most desirable solution and better able to address the most significant challenges posed by the context. Moreover, CRMs should be technology neutral, ensure equal treatment of different market players, take into account interconnectors and be established as a stable framework.

At the same time, Enel acknowledges the importance of moving forward at the EU level to reach properly functioning and competitive energy markets and increase cross border interconnection. To this end policy makers need to address key areas including removing the various remaining distortions such as end-users regulated prices, stepping up efforts in integrating electricity markets, in particular balancing markets, and bringing RES into the market.

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