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REFORM OF THE EUROPEAN ELECTRICITY MARKET DESIGN

EXECUTIVE SUMMARY

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Jorge Fernández Gómez

Orkestra
BASQUE INSTITUTE OF COMPETITIVENESS
DEUSTO FOUNDATION

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Executive summary

This report analyzes the development of the debate on the reform of the European electricity market design that took place in 2022 and 2023 and reviews the final agreement for the update of the market design reached by the European Parliament and the European Council in December 2023.

The update of the electricity market design, which will be implemented from 2024 onwards, maintains the essential elements of the current scheme in the European Union, and proposes modifications aimed at completing the development of the internal energy market, protecting the most vulnerable consumers, increasing the stability and predictability of the cost of energy and generating incentives for investments in renewable energy and flexibility.

During 2022 and 2023 a profound debate took place in the European Union (EU) on how to reform the design of the electricity market.

The aim of the reform was to achieve a more effective and resilient market design in the face of crises and extraordinary situations and to increase its efficiency in the process of decarbonizing the economy.

The implications for energy markets and the economy of the coronavirus pandemic and Russia's invasion of Ukraine prompted a thorough reflection on the adequacy of the current European electricity market design.

The unprecedented increase in gas prices, due to the extreme dependence of the European energy system on natural gas imports, was passed on to electricity prices across the continent and had a severe impact on the disposable income of households, business competitiveness and inflation.

Despite the fact that many voices pointed to the electricity market as the cause of the extraordinarily high electricity prices seen in 2021 and 2022, this situation was not due to the design of the market. In fact, the analyses of institutions such as the European Commission, the association of European energy regulators (ACER) or multiple experts and academics indicate that the functioning of electricity markets in the EU in the last 15 years was adequate.

Increased competition in the wholesale and retail markets, investments in renewable energies, increased liquidity of term products up to 5 years and increased market coupling and convergence of electricity prices across the EU are some of the positive consequences for consumers of the current market design.

Nevertheless, both ACER and the European Commission identified some ways to improve the structure of the wholesale market, such as: a better response to extraordinary situations, better integration of flexible resources or the development of very long term markets.

The debate on how to update the design of the electricity market was structured around two approaches: an interventionist position and a reformist vision.

Among the market interventionist positions, which emphasized the control of market prices and generators' revenues, largely invalidating the current design, the Spanish Government's proposal of January 2023 stood out, which implied de facto regulation of market prices, generators' revenues and quantities (generation capacity of different technologies) and, therefore, the intervention and regulation of the electricity market.

The Spanish Government's proposal was based on the belief that liberalized electricity markets cannot generate sufficient levels of competition in the wholesale and retail markets or efficient price signals to induce consumption, operation and investment behaviors that are beneficial to society.

Among the reformist positions on electricity market design, which sought to complement the current design with elements to improve market resilience and consumer protection, was the European Commission's proposal of March 2023, which, building on the current market design, contained specific elements of consumer protection and measures to encourage investments in renewable energy and the development of forward markets.

In general, the European Commission's proposal was closely aligned with ACER's April 2022 recommendations, which indicated that the current marginalist market design should be maintained, introducing some changes to address important challenges, including: (1) improving the functioning of short- and very short-term markets; (2) fostering the energy transition through an efficient development of long-term markets; (3) promoting sources of flexibility in the electricity system; (4) introducing tools to protect the most vulnerable consumers; and (5) establishing response mechanisms in times of market stress.

The Spanish Government's proposal involved the segmentation of the wholesale market by technology and the regulation of generators' revenues.

This would be achieved through: (1) public auctions of contracts for difference (CfD) for new investments in renewable generation; (2) a capacity mechanism to set revenues for flexible marginal technologies; and (3) a regulated price scheme (based on average costs) for infra-marginal technologies (nuclear and hydro).

The implementation of this market model required, on the one hand, the establishment of additional regulation to encourage participation in regulated contracting mechanisms and guarantee sufficient revenues for all technologies and, on the other hand, centralized planning of the generation mix.

This proposal focused the solution to the energy crisis in Europe on the design of the electricity market, rather than on reducing the extreme dependence on imports of natural gas from third countries (and, in particular, from Russia).

Moreover, it was based on an assessment of the functioning of marginal markets that was not in line with the general consensus views among regulators, academics and experts on issues such as wholesale electricity price setting, the relationship between short- and long-term markets or the difference between normal profits, extraordinary profits and windfall profits.

According to these views, price and quantity intervention in the wholesale electricity market would result in negative consequences for consumers, including:

- reduced competition in the wholesale and retail markets;
- distortion of price signals, which reduces the efficiency of asset operation and energy consumption decisions and creates barriers to investment in new generation capacity and flexible resources;
- worsening liquidity in the spot and forward markets;
- inefficiencies associated with the impossibility of implementing efficient procedures for planning the generation mix and setting recognized costs (due to information asymmetry and a lack of resources of the regulatory entities);
- the reduction of incentives for investment in clean technologies due to increased uncertainty linked to the complexity of implementing a regulated market.

The European Commission's proposal included modifications to the current design of the electricity market with the aim of completing its development.

Specifically, the Commission advocated the completion and full implementation of the internal energy market, protecting consumers from excessive price rises or price volatility, increasing the stability and predictability of the cost of energy and generating incentives for investment in renewables and flexibility.

Measures to better protect consumers included, among others:

- the right of consumers to receive fixed price contract offers, to sign multiple contracts and to get better contractual information;
- the possibility of setting regulated prices (below cost) in situations of "electricity price crisis" (applicable to households and SMEs);
- the prohibition to disconnect vulnerable consumers; and
- the development of renewable energy sharing schemes among active consumers within a bidding zone.

To increase the stability and predictability of energy costs the Commission proposed to:

- encourage very long-term (voluntary) contracts (PPAs and CfDs) with public support to hedge counterparty risk;
- foster the growth of forward market liquidity through the development of regional hubs;
- give the possibility for TSOs to offer a short-term peak demand product in situations of shortage of supply; and
- to provide ACER with greater capacity to monitor the market.

Finally, to incentivize investments in renewables and flexibility, in addition to promoting forward instruments (PPAs and CfDs), the Commission proposed to:

- establish support mechanisms for new investments in storage and demand management;
- design more efficient network access tariffs;
- provide greater transparency and information on the capacity available in the grids and on the grid connection process; or
- advance in the development and integration of very short-term markets.

The negotiation process for the reform of the electricity market design ended with an agreement between the European Parliament and the European Council in December 2023.

This final agreement introduced some amendments to the European Commission's proposal in March 2023, without altering the essential elements.

The amendments of the European Parliament and the European Council did not modify, in substance, the European Commission's proposal, although changes were introduced to strengthen consumer protection, improve the stability and predictability of the cost of energy and encourage investments in renewables and flexibility.

Some of the most noteworthy elements of the agreement are as follows:

- *Contracts for Differences*. Participation in CfD (or similar) schemes will be voluntary. Public direct price support schemes for investments in new low emission, non-fossil fuel generation facilities (i.e., wind, solar, geothermal, hydro without reservoir capacity, and nuclear) should take the form of CfDs.
- *Capacity mechanisms*. Capacity mechanisms are considered a structural element of the electricity market design and all technologies that offer the required technical and operational response are eligible for periods of up to 10 years.
- *PPAs*. The principles of technological neutrality, voluntariness and market pricing are maintained. EU Member States may limit (public) guarantee schemes to PPAs for new renewable generation and encourage these contracts by reserving (for sale through PPAs) part of the renewable generation allocated in public auctions.
- *Protection of vulnerable consumers against disconnection*. The definition of energy poverty will be incorporated into the regulatory framework through a reference to that included in the Energy Efficiency Directive (EU 2023/1791).
- *Electricity price crisis situations*. The European Council may declare an electricity price crisis situation if prices (wholesale and retail) reach very high levels. In situations of price crisis, Member States may temporarily set regulated retail prices below costs (with appropriate compensation for retailers) that may be applicable to vulnerable consumers, households or SMEs.
- *Energy sharing*. Households and SMEs have the right to participate in energy sharing schemes within a given bidding area. This right could also be extended to larger consumers (e.g. industrial). Specific conditions and the roles and responsibilities of the different agents involved in the scheme (active consumers, "organizers" etc.) are defined.
- *Daily, intraday and forward markets*. The integration of the daily and intraday markets is encouraged through greater coordination between system and market operators, the reduction of the time between gate closure and dispatch to 30 minutes or the potential development of peak shaving products or regional virtual hubs.
- *Flexibility measures*. Member States will have to estimate every two years the flexibility needs in the electricity system with 5 and 10 year horizons and will set targets for non-fossil flexibility taking into account, in particular, demand response and storage. They may also put in place systems to support non-fossil flexibility sources (e.g., payments for the availability of non-fossil flexible capacity, demand response or storage).
- *Electricity grids*. Anticipated investments will be encouraged (i.e., taking into account future demand developments) to facilitate the electrification of the economy and the transformation of the electricity mix into one with zero net emissions.
- *Revision of the Regulation*. By June 30, 2026, the Commission shall conduct a review of the Regulation implementing the new design including, if necessary, a proposal for legislative changes. The Electricity Directive, on the other hand, must be reviewed by December 2025.

The final agreement to reform the design of the electricity market in the EU includes positive elements for households and businesses.

On the one hand, completing the development of the current market and introducing mechanisms to protect consumers and encourage investment in renewable energies and flexibility makes it possible to resolve some of the main challenges facing the electricity market.

By moving towards a reformist, rather than interventionist, model, greater certainty and stability is provided, and retroactive measures and interventions by national authorities that fragment the internal energy market and increase the risk perceived by investors are avoided. In this way, the conditions that promote greater efficiency, stability and resilience of the electricity market are reinforced.

Furthermore, while the design of the electricity market should induce efficiency throughout the electricity value chain, it should also drive changes to achieve other desirable objectives, such as the decarbonization of the economy or increasing security of supply. Support for the expansion of electricity grids and flexibility (i.e., demand-side management and storage) and the implementation of capacity mechanisms are some of the measures that will facilitate the achievement of these additional objectives.

On the other hand, the promotion of new forms of forward contracts (PPAs and CfDs) is an essential element of the European Commission's proposal and can generate significant benefits for consumers if implemented correctly, generating price stability and favoring investments in renewable energies. Measures to protect the most vulnerable consumers, especially in times of price crisis, are also key elements to ensure proper market functioning.

In the coming years, the main challenge for legislative and regulatory authorities in the EU and Member States will be to efficiently implement the agreed changes.

To encourage forward energy contracting it will be necessary to remove distortions in the current framework to encourage forward contracting (in Spain, for example, support systems for renewable energy or the regulated tariff, PVPC), avoid cross-subsidies due to inefficient allocation of CfD revenues to certain consumers, and remove barriers to the development of PPAs. In addition, the design of public support schemes for PPAs and CfDs should avoid undesired impacts on the functioning of the forward market and its liquidity.

On the other hand, in order to favor the decarbonization of the economy and increase in the electrification of final energy demand, direct price support measures should focus especially on the most vulnerable consumers, while also encouraging incentives for more efficient behavior and investments in energy efficiency and new technologies.

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