europex
association of european energy exchanges

POSITION PAPER ON MARKET DESIGN

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EUROPEX is a not-for-profit Association of European Energy Exchanges representing the interests of exchange-based wholesale electricity, gas and environmental markets with regard to developments of the European regulatory framework for wholesale energy trading and provides a discussion platform at European level.

I. Executive Summary

Europex strongly supports market-based approaches to achieving the EC's objectives of competition, security and sustainability. Only markets can efficiently integrate the diverse and interrelated factors and knowledge held by a large number of actors.

Regarding future changes to the energy market design, Europex recommends that policymakers focus on the following areas:

1. Bringing RES into the market

Europe has successfully achieved its objective of rapid growth of renewable generation. However, the policy mechanisms for promoting renewables are creating strong distortions of Europe's energy markets as well as creating high financial burdens for end-customers. Europex proposes a 3-step process for RES integration.

2. Rewarding capacity and flexibility

Exploit untapped benefits available from Energy Only Markets (EOM) by removing subsidies, price regulation and allowing the Wholesale Price to trigger Demand Side Response. Where policymakers require measures that diverge from the EOM (e.g. Capacity Markets), such arrangements should minimize the impact on the EOM, and be designed consistently across regions.

3. Remunerating transmission capacity

Investment in renewables without concurrent investment in transmission networks is leading to increased congestion. Although Europex believes that investment in new transmission capacity is required, Europex believes that market solutions can get the best out of existing capacity if policymakers promote liquid, integrated intraday markets.

4. Appropriate regulation and governance of markets

Markets need a stable environment in order to develop and perform their function efficiently. Energy is, however, now operating in a much more highly politicized environment – and the political process is often not well suited to giving the stability the market needs. Independent regulation needs to play an essential two-way role: ensuring the market is efficiently meeting the policy objectives, and ensuring the policy objectives are rational, consistent and stable.

I.1: Bringing RES into the market / green market design

Key messages

"Market-based solutions and European approaches will enable goals of security, competition and sustainability most efficiently"

The considerable development of electricity production from (intermittent) renewable energy sources has led to a critical need to ensure consistency throughout Europe on some aspects of energy policy. This is necessary to avoid further significant market distortions that already lead to a degraded price formation resulting in decreased competition and higher cost for the community and possibly lower security of supply.

1. It is time for a European and market based approach

- The European institutions should endeavor that the market is given a framework that enables it to solve any possible supply/demand issue to the largest possible extent. In this respect, it is essential that RES support mechanisms do not distort price formation or lead to a sub-optimal use of production portfolios and available demand flexibility.

- The reason to allocate financial support for specific technologies should – besides accompanying socio economic considerations – clearly be to bridge the learning curve until this technology reaches market maturity - i.e., can compete with other technologies without support. If this is in reach, support should be limited and new installations shall operate under market oriented models. Any financial support mechanism introduced needs to include a clearly defined sunset clause.

- If member states introduce or already use support schemes they should be market-based in order to ensure allocation of support to the most efficient solutions. Such market mechanism should, as far as possible, be accessible to any facility, in particular those located in other countries. In any case, they should strive to avoid any restriction of cross-border trades as a result of the implementation of those schemes - which would distort competition in the wholesale market

- Subsidized generation should be required to participate in the wholesale energy market – i.e., no priority dispatch or reserved transmission capacity. This implies the need for solutions to facilitate participation in the wholesale market by RES, which is often small-scale and embedded.

- In climate policy with the European Emissions Trading Scheme (ETS) a European, market-based approach already exists, although its efficiency is limited by uncertainties of regulation and the political process. The application of this principle equally to renewable support schemes enhances policy coherence and creates significant synergies between the policies. This is particularly important given the long-

term perspective of both policies and their fundamental importance for the further development of energy supply in Europe.

2. The Target Model already contributes to handling RES in an efficient, secure way. It is vital to reinforce and not harm this important mechanism.

- Well-functioning markets provide transparent price signals that lead to physical cross border flows from low price to high price areas or from areas with excess electricity production to areas with less available capacity or even scarcity. Consequently, cross border trade, in particular via implicit auctions, already today leads to situations where high electricity production from fluctuating RES is used to compensate less availability in other countries and vice versa. In this sense the activities of PX (e.g. through the PCR project) counter-balance the negative externalities of RES support. Price variations are able to correctly reflect offer/demand tightness amongst others in order to let the electricity flow where it is valued most and to create the market opportunities that are needed to develop and exploit the potential of demand response.

- By the same token, trading closer to real time facilitates market and system integration of RES as it helps to display the physical reality within the grid as solar and wind production cannot be forecasted with certainty. We believe trading closer to real time helps to integrate RES into the electricity system as well as into the market. Facilitating the means for this integration, namely liquid and connected intra-day markets, is one of the main goals of Europex and its members. TSO harmonization of such issues as gate closure times, settlement periods and tick sizes would facilitate trading as close to delivery as possible.

3. Europex proposes a 3-step process for integrating RES into market mechanisms (for wholesale energy, development subsidies and carbon reduction)

I. Immediate goal

- Market mechanisms should be the central coordination mechanisms of the electric system as they provide important incentives for the efficient integration of fluctuating RES. In order to preserve the effectiveness of these market mechanisms, RES need to be fully integrated into the electricity markets with no special derogations or privileges. This ensures that the existing mechanisms to ensure the efficient and secure operation of the electricity system are not corrupted.

- In order to integrate RES into electricity markets, RES should bear the same range of market-specific risks as other energy sources within the electricity markets, including price risk as well as volume risk, removal of dispatch priority (which should be left to the bidding behaviour of MPs), exposure to the balancing price for unscheduled production, and participation in the reserve costs.

- The immediate goal should be to integrate larger facilities – e.g., over 5MW. Smaller scale RES integration is dependent on the creation of suitable mechanisms and technologies (e.g., data aggregation, controls, balance responsibility) to facilitate this.

- Where support is provided (e.g., for new technologies) this should not change the need to still include the generation in the normal market mechanisms. Any subsidies should be granted outside of the electricity market mechanism in order to avoid market distortions - e.g., through a premium on top of the exchange price as opposed to feed-in tariffs, or better through a fully separate mechanism such as internationally tradable green certificates [with a quota obligation on suppliers].

- RES should contribute to the balancing markets as far as possible. For this purpose, RES-plants, fluctuating RES as well as dispatchable RES, may be pooled as they tend to be small and fluctuating RES-production may be compensated within a pool ("virtual power plant").

II. Medium term goal

- Financial support for RES should take better account of Europe's diversified geographical and climatic resources. Due to the currently non-harmonized structure of RES support schemes in Europe, investment patterns in RES have tended to follow the most favorable promotion policies rather than those locations which can be exploited most efficiently. The effectiveness of these subsidies would be significantly improved by applying a EU-wide market-based mechanism.

- As a first step, Member States need to open their support schemes to renewable generation from other Member States. Use of the cooperation mechanisms under the Renewables Directive should be increased and possibly the mechanism of Guarantees of Origin used for this purpose as well. The fragmentation of national RES support schemes also leads to a high degree of complexity and potential for abuse. In our view, this is another major obstacle for an efficient and successful expansion of RES technologies, as it limits the investors' ability to make optimal investment decision. This may lead to less-efficient investment in RES than possible under harmonized rules.

- Market arrangements are the appropriate framework for RES investment incentives. To facilitate their efficient integration, the increased use of new market-based mechanisms might be necessary - e.g., flexible market responses or Guarantees of Origin. There is a significant demand for these products, as can be seen by the existing successful initiatives. There is a strong need for a harmonized and regulated European registration scheme to enable recognition of RES in other countries and minimize the risk of abuse.

III. Long term goal

- Considering the ambitious goals for greenhouse gas reduction in Europe by 2050 and the important contribution that RES will have to make to achieve this objective, a mandatory target preferable over a purely voluntary approach. However, this target need not necessarily be directly on RES but possibly indirectly through (carbon) emissions. Only such a robust political and regulatory framework can provide efficient investment signals (allowing market-based investment) and ensure that the RES deployment rates actually meet the desired target. As recent experience has shown, there is a clear need for thought-out and stable arrangements, providing regulatory certainty.

I.2: Rewarding capacity, flexibility (including demand-side)

Key Messages

- Major changes are occurring to the load-duration for marginal plant due to RES growth operating with low or zero marginal cost. The impact can be mitigated to some extent by the further realization of the Target Model (DA/ID market integration, flow-based, no price caps) - so this must remain a key priority.

- Currently, different nationally designed models exist or are being introduced to reward capacity, but the objective of these mechanisms is not always clear. This leads to confusion over purpose and differing design approaches. There needs to be greater clarity on the problem that regulation seeks to address and the criteria for success. This should be an objective process.

- Before implementing a capacity mechanism, besides expanding grid infrastructure the potential of the Energy Only Market (EOM) has to be fully exploited, fostering energy efficiency and demand-side response. A major opportunity is participation by the demand side, possibly enabled by new technology – for example, integrated retail market side (demand-side) and the potential of aggregated small-scale resources. Enabling verifiable load reduction as source of flexibility is an obvious no-regret measure.

- The Energy Only Market should be enhanced by looking for better ways to ensure that flexibility is properly valued and tradable. In principle, a well-designed, integrated liquid intraday market and balancing mechanism can reward flexible generation. Another no-regret measure! However, it may be that the ability to trade this flexibility could be further enhanced – e.g., through options, harmonization and simplification of the current TSOs patchwork of local and cross-border scheduling processes and systems. Such a solution would need to be crossborder.

- The wholesale price should be firmly established as a key reference signal for investments (another no-regret measure):
    - Remove potential market distortions leading to corruption of the price signal, such as subsidy schemes, price regulation and bidding restrictions.
    - Study the role of price spikes/scarcity rents as a potential solution to the "Missing Money problem" and assess the impact of price caps and demand inelasticity on the efficiency of this investment signal;
    - Harmonize balancing markets/system services (cross-border balancing, harmonization of imbalance settlement) and enhance their role in investment decision making;
- Some additional mechanisms may be unavoidable: indeed, several capacity mechanisms are already being implemented/in existence. The key issues are supporting European coordination and avoiding flawed designs (e.g., those that undermine energy markets or create ineffective/inefficient solutions). If capacity mechanisms are to be implemented, they should:
    - Be clear as to the objective (e.g., peaking plant or baseload capacity) and the criteria for success. Should be limited to the security of supply issue and should not address secondary goals like emission reduction;
    - Complement the EOM without distorting it - i.e., be aligned to the Day-Ahead and Intraday Target Models and not impact their efficient functioning (Implicit Price Coupling/Shared Order Book);
    - Be market-based and technology neutral to foster competition;
    - Be harmonized on a European scale (or, at least, be coordinated/compatible between MS). This requires mechanism to ensure no abuse (such as registration for payments from more than one scheme?);
    - Recognize the value of capacity in other countries through cross-border participation of neighboring power plants. However, this should not involve any reservation of transmission capacity (one could instead penalise or claw back capacity payments in case of unavailability due to lack of transmission capacity);
    - Enable trading of capacity products cross-border - e.g., by inviting PXs to make proposals for a capacity product that best fits the needs of the market;
    - Be stable and predictable – reducing unnecessary risk to generation investment (note: implies that capacity mechanisms are of a long term, not interim nature).

- A variety of solutions have been implemented or proposed in Europe (capacity markets, mechanisms, strategic reserves).

I.3: Transmission model (bidding areas, Flow-Based, nodal)

The connection of significant volumes of RES to the transmission network without adequate investment in the transmission network or its insufficient integration in the wholesale market can increase cross-border and internal congestions. As the market outcome moves further from an assumed copper-plate model, there will be increased pressure to find solutions that deal efficiently with congestion.

Key messages

There needs to be clarity on the criteria for how best to address the problem of increased congestion – for example:

- promote liquid, efficient energy markets;
- promote proper investments in necessary grid infrastructure;
- minimize use of non-transparent, non-market solutions - such as excessive or inefficient use of redispatch;
- enforce rule that internal capacity constraints are not moved systematically to the border;
- promote alignment of incentives to mitigate congestions (operational, investment);
- ensure optimal use of transmission system;
- fair impact on generators and consumers in different locations;
- minimize costs of change (including impact on markets, uncertainty).

There are a number of routes to address the problems associated with increased congestion:

1. Promote liquid and integrated intraday markets. The market has more information on likely output of generation that is hard to forecast and is able to reflect this more accurately in trading decisions than at the day-ahead stage. To this aim, harmonization and simplification of TSOs' current mix of nomination processes will greatly facilitate full cross-border market integration.

2. The implementation of flow based capacity allocation mechanisms, which take into account network topologies and grid constraints, can significantly improve the utilization.

3. Promote harmonised, integrated and market based approaches to balancing to provide TSOs with more opportunities to balance which may help reduce the costs and minimise distortions created by differences in key elements of balancing mechanisms. Market based mechanisms are important to ensure that costs are not hidden and prices reflect fundamentals.

4. Promote harmonised, coordinated and market based approaches to congestion management by TSOs as well as appropriate approaches to cost sharing. Greater coordination could help reduce cost of managing congestion. Market based approaches are important to ensure costs are not hidden.

5. Promote coordinated and transparent approach to cross-border capacity calculation and consider measure to address incentive for TSOs to adopt a conservative approach to cross-border capacity calculation such as setting minimum cross border capacity

6. Address other aspects of national or European electricity market policy, such as the lack of coordination of renewable subsidies, preferential treatment of renewables in the market or balancing mechanism (such as priority dispatch rules and their interpretation) and capacity mechanisms which may increase congestion costs.

7. Improve transparency of network flows, congestion management actions and costs. Transparency the scale and cost of the issue is important to resolve the problem.

8. Implementation of either financial markets (including CfDs) with day-ahead or intraday regional or zone prices as underlying references, or financial transmission rights would improve the possibilities for cross-border hedging as they may allow other parties, not only the TSOs, to offer hedging products.

9. Bidding zone delimitation to improve price signals. Better price signals should in principle let markets deliver more efficient outcomes.

10. Topology measures and installation of Phase Shifting Transformers (PST) directly influence the physical flows in the Grid. Such measures may relieve the situation to some extent, but their scope is limited. As physical flows are diverted and measures not widely coordinated, the measures may create problems elsewhere in the grid.

11. Coordinated grid development. A long-term measure if to make investments in the power systems that limits/removes bottlenecks. However, an interim measure and pre-condition to efficient investment is to establish more formal

mechanisms/approaches to ensure coordination and cost sharing for a more European perspective of network development.

I.4: Governance and regulation

Key Messages

- Markets should be subject to appropriate supervision to ensure that they operate in a fair and orderly way, etc.
    - Markets need stability and predictable legal frameworks to build confidence, to attract market players and liquidity and thereby to operate efficiently;
    - Appropriate level of supervision is needed as either excessive or insufficient rules can increase costs and create barriers to entry.
- The Target Model is introducing new institutional-type roles for power exchanges – i.e., in the facilitation of capacity allocation DA and ID. As a consequence, the governance and regulation of these arrangements are critical factors if Europe is to successfully address the challenges faced in energy.
- Appropriate governance and legal frameworks are needed to promote the development of market coupling solutions and their timely implementation.
- The appropriate governance and legal structure depends on the nature of the challenge. This can vary over time. The approach should be differentiated based on the aim:
    - Finding the best solution: innovation needs to be encouraged and rewarded by market based mechanisms. This implies support for voluntary, entrepreneurial initiatives and limited regulatory control. Co-operation between parties may equally need to be facilitated;
    - Implementing a proven solution: a more structured approach may be needed including the ability to create binding obligations to comply. This approach should be focused on the areas where adopting standard processes or solutions are the most efficient way of implementation.
- The principle of subsidiarity should be respected, with harmonisation and change limited to that which is essential for the operation of market-based EU-wide solutions, avoiding the risk of unnecessary implementation delay. This also respects the principle of proportionality.