INCENTIVES FOR INVESTMENTS IN NEW RELIABLE CAPACITY WITH HIGH SYSTEM BENEFIT

Impulse for the European Commission for the expected

EU ELECTRICITY MARKET DESIGN REFORM 2022/23

- While resource adequacy challenges play a relevant role in the ongoing market design debate in Europe, the urgent need for transmission adequacy has been grossly underestimated.[1] Considering the extensive decommissioning of conventional power plants, it is evident that not only the secured capacity is being massively reduced, but also the suppliers of a range of system services (e.g., redispatch), which are needed to operate the grid. This development critically hampers one of the main goals of the energy transition: to bring massive amounts of renewable energies, e.g., offshore wind, to the European load centres.
- To ensure transmission and resource adequacy in the transition to a carbon neutral European power system, there is an urgent need to create investment incentives for additional low carbon and reliable capacities in locations where it will generate the highest benefit to the power system.
- Effective investment incentives must be implemented quickly in order for the required capacity to be built well before 2030, complementary to the urgently necessary grid expansion.
- An example of a measure that ensures quick and effective incentives is the "Neubau-Vorschuss" model *(Advance Payments for Reliable Capacities)* proposed for Germany but likely required by other countries as well. This is a market-oriented mechanism which incentivises additional capacity in locations where it is particularly needed for the energy system before 2030.

MAIN REQUIREMENTS

Fast implementation

- A fast implementation of mechanisms to incentivise reliable capacities in the European energy system is key when it comes to solving transmission and resource adequacy issues.
- In some member states fundamental market design changes – such as the implementation of capacity markets – may come too late to address the current challenges in time. Where this is the case, targeted mechanisms with rapid implementation based on the existing market design should be allowed to quickly incentivise new capacity.

Easy implementation

- The Electricity market regulation defines strict prerequisites and design principles for capacity mechanisms that effectively hinder their implementation.
- However, such prerequisites and process steps effectively translate into hurdles for capacity mechanisms to be introduced, discouraging their implementation altogether.

[1] Transmission adequacy of a power system means the optimal management of the power flows resulting from the location of both consumption and generation; Resource adequacy means that reliable capacity resources are meeting the demand of the consumers at all hours.

- Given the need to quickly adjust the design of electricity markets and to create investment incentives for additional low carbon-reliable capacities, the regulation needs to be adjusted accordingly.

Consider **national needs**

- Capacity mechanisms can serve multiple purposes, while the needs vary depending on the member state. The requirement to take local or national needs into account and react in a flexible, need-based manner should be reflected in the European legislation.
- Thus, instead of the clear distinction in current legislation between congestion management instruments and capacity mechanisms, a more holistic approach would contribute to ensure that investments in additional capacities are made at locations where they generate the highest benefit from a system-wide perspective.
- In the short-term, the European regulation should be adapted to clarify that measures to incentivise investment in additional capacity with the primary objective of serving congestion management will be considered congestion management measures (and not capacity mechanisms), even if these measures might also contribute to achieve the required level of resource adequacy.

INTRODUCING A FIT-FOR-PORPUSE SOLUTION

CURRENT SITUATION IN GERMANY:

- Nuclear and Coal Phase-out (about 40 GW will leave the market by 2030[2]) and, in addition, a massive increase in peak load and consumption.
- Additional system services and rising costs: The significance of the redispatch costs is reflected in the total costs for grid security measures in Germany which amounted to 2.2 billion euros in the first half of 2022.
- Several studies confirm the need of new capacity. It is important that the new construction of reliable capacity serves the grid optimally. This means that it must be constructed in grid regions where there will be a great need for redispatch in the near future.

CONCEPT "ADVANCE PAYMENTS FOR NEW RELIABLE CAPACITY"

- The key incentive is a fixed remuneration for the expected benefit of the plant to the power system, based on system analyses by the TSOs, and approved by the National Regulator Authority.
- Based on the expected benefit, power plants are guaranteed a component of the existing redispatch compensation at the time of investment.
- For potential investors, this mechanism makes the remuneration for redispatch measures plannable and bankable.
- Due to the considerable share of operating hours resulting from redispatch expected in southern Germany, the advance can make a decisive contribution to a positive business case for the investment decision.

ADVANTAGES OF THE CONCEPT:

- Fast and easy implementation: Low implementation effort as the mechanism is based on the existing market design (energy-only market). Additional capacity can be built well before 2030.
- System-supporting: Power plants are incentivised where they generate the highest benefit for the energy system.

[2] Without grid reserve, based on the power plant list (November 2022) of the BNetzA (German Regulator)

- Cost efficient: Competitive procurement through competitive bidding; no additional system costs if expected system benefit is achieved.
- Minimised market distortions: Compensation component already exists in German regulation for all market participants.
- Compatible with a possible fundamental change in market design at a later stage (e.g., implementation of a capacity market).
- The concept is basically adaptable to other member states.

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