



Denmark's response to the European Commission's public consultation with regard to the interim report of the sector inquiry into capacity mechanisms

June 2016

General remarks

The Danish government welcomes the interim report of the sector inquiry into capacity mechanisms. Denmark strongly supports the Commission's view that the need for capacity mechanisms should be based on harmonised regional assessments. Denmark believes that the overall aim for the European internal energy market must be to eliminate the need for capacity mechanisms through a well-functioning energy-only market that sends appropriate short and long term price signals to invest in new and existing capacity as well as infrastructure. Capacity mechanisms should be temporary measures to be employed whilst existing market design failures in wholesale electricity markets are rectified. The introduction of capacity mechanisms should, therefore, be accompanied by a roadmap for remedying the underlying market failures that are responsible for the adequacy concerns, including a deadline for when the mechanism should be phased out.

Denmark's key points are as follows:

- The energy-only market should be the main instrument to ensure generation adequacy; capacity mechanisms or other national initiatives to ensure generation adequacy should be temporary measures of last resort;
- The introduction of a temporary capacity mechanism should be accompanied by a roadmap for removing existing market design failures, including a deadline for a phase out of the mechanism;
- The need for a capacity mechanism should be based on a harmonised regional generation adequacy assessment;
- The introduction and choice of capacity mechanism should be based on a comprehensive regional social welfare economic analysis;
- Harmonised principles for capacity mechanisms should be developed, including principles for cross-border participation.

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The energy only market should be the main instrument to ensure generation adequacy

In a well-functioning internal energy market comprising markets for electricity and markets for ancillary services, investors will receive accurate short and long term price signals to invest in new transmission or production capacity and/or retrofit existing capacity. Similarly, the consumers will be confronted with the true costs of using electricity and thus receive the right incentives to react to the price signal. Therefore, it is important to identify the market barriers causing the generation adequacy problem with an aim to removing these barriers before introducing new initiatives to ensure generation adequacy. Removing barriers entails *inter alia* addressing insufficient transmission capacity both across and within borders, developing efficient short and long term markets, and facilitating a higher level of consumer participation in the market.

However, as stated in the interim report some barriers may be difficult to remedy or require time to address properly. Consequently, it can be necessary to introduce temporary capacity mechanisms in order to ensure generation adequacy as a last resort when facing challenges of the electricity market. If introduced, Member States should be obliged to ensure that the design of capacity mechanisms do not delay the long term ambition of developing a well-functioning, integrated European electricity market in which market based electricity price signals – rather than support for capacity - ensure the necessary investments.

The introduction of a temporary capacity mechanism should be accompanied by a roadmap for removing existing market design failures including a deadline for a phase out of the mechanism

The interim report mainly focuses on how capacity mechanisms should ideally be designed in order to address specific types of adequacy problems. The interim report e.g. presents preliminary conclusions regarding which types of mechanisms are more appropriate in order to address a *short term* capacity problem in contrast to a *long term* capacity problem.

In general the report refers to market failures, but it does not define what constitutes a market failure or how the market failure can be removed. The report should both aim to identify how market failures create short or long term capacity problems as well as present recommendations on how market failures can be removed. In order to reach the objective of a well-functioning internal electricity market, the final report should in addition address how and to what extent capacity markets distort the energy-only market.

Denmark strongly believes that capacity mechanisms should not be an alternative to a well-functioning electricity market, as capacity mechanisms distort the energy-only market. Therefore, it is important that the introduction of capacity mechanisms is accompanied with a road map for how to remedy the market failures creating the adequacy problem. This road map should also include a timeline for the phase out of the capacity mechanism.



The need for capacity mechanisms should be based on harmonised regional generation adequacy assessment

The applied methodologies, models and assumptions when carrying out generation adequacy assessments varies greatly between Member States. In order to develop a fully integrated internal energy market, a harmonised methodology to assess generation adequacy is needed. The harmonised methodology should be applied on a regional level in order to fully account for the contribution of interconnectors and capacity in neighbouring countries. A harmonised method to assess system adequacy must eliminate the current bias towards thermal, domestic generating capacity that is often found in existing generation adequacy assessments. When evaluating system adequacy, it is at present common practice to reduce the availability of interconnector capacities and for sensitivity analysis to be performed on the assumption that interconnectors are not available. These tendencies contribute to a perception that import is a less reliable source of supply than domestic generation. This leads to overestimation of the level of domestic capacity required to maintain the desired level of adequacy which ultimately results in market distortions. Moreover, the contribution of renewable energy to system adequacy is similarly underestimated, which reduces the value of renewable energy for the system and can result in the retention of generating capacity that is often not competitive in the market.

A harmonised methodology should be based on a probabilistic method. A probabilistic method provides a more accurate picture of the probability of having sufficient power to satisfy consumption than current methodologies. A probabilistic method ensures that the intermittent nature of wind and solar based production, small-scale hydro, small and large power plants, combined heat and power, demand side response, transmission lines as well as interconnectors are represented in the calculation in a manner that more accurately reflects their contribution to system adequacy. A probabilistic method would also make it easier to analyse the potential for more shared security of supply across borders. Consequently, a probabilistic method would provide a better basis for decisions on new investments to improve security of supply.

The introduction and choice of capacity mechanism should be based on a comprehensive regional social welfare economic analysis

The introduction of capacity mechanisms in Member States can have a great impact on the markets in neighbouring countries. If one country decides to implement a capacity market, there is a risk that neighbouring countries are forced to also implement a capacity market, since the introduction of a capacity market in one country can potentially have a negative effect on electricity prices in neighbouring countries, which in turn reduces the incentive to invest based on electricity price signals. Furthermore, if two neighbouring countries decide to implement different



types of capacity mechanisms it will most likely be inefficient and make the market less transparent.

Member States should retain the prerogative to determine national reliability standards. However, to ensure a cost effective solution and minimise the distortion on the internal energy market the choice of capacity mechanism should be based on a regional social welfare economic analysis, which takes the effects the introduction of a capacity mechanism will have on the neighbouring countries into account. This requires a higher level of coordination between TSOs.

Harmonised principles for capacity mechanisms should be developed, including principles for cross-border participation

To ensure that capacity mechanisms distort the market to a minimum the Commission should develop harmonised principles for the design of capacity mechanisms. In general capacity mechanisms should be time-limited, technology neutral and allow for cross-border participation and demand response.

Annex 2 in the interim report highlights important considerations which should be taken into account when developing general principles of cross-border participation in capacity mechanisms. We agree with the working group that the need for cross-border participation in a strategic reserve is limited, as strategic reserves should not be activated before all possibilities for imports have been exhausted. However, as the markets become more integrated and TSO-cooperation intensifies it could be beneficial to develop regional strategic reserves. This would most likely ensure a more cost effective solution than introducing separate national capacity mechanisms.

Factual comments to the interim report

- In the report the Danish reserve is referred to as abandoned, however Denmark has not abandoned the plan to introduce a strategic reserve in 2017-2018. The implementation of the strategic reserve has been postponed until it can be clarified whether it fulfils the state aid guidelines.
- General remark to figure 2, 4, 11, 12, 13 and 19: In Denmark a high share of our power plants uses biomass as main fuel. We therefore suggest separating biomass and fossil fuels.
- Figure 13: Denmark has a large share of combined heat and power (CHP) plants. Consequently, the drop in the level of Danish capacity utilisation of combustible fuels is limited compared to other Member States with high penetration of wind, due to the dual function of CHPs (heat and electricity). In addition, a large share of thermal production uses biomass rather than fossil fuels.