

Answer to public consultation on “**Generation adequacy, capacity mechanisms and the internal market in electricity**”

Registered organisation - Identification number: 43284012043-03

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QUESTIONS and ANSWERS

(1) Do you consider that the current market prices prevent investments in needed generation capacity?

We consider that other political debates, e.g. the uncertainty around the ETS or around the further commitment for renewable energies are stalling investment decisions. In addition, the situation regarding ‘needed’ capacity varies from member state to member state. Thus, one cannot make a general statement on the role of market prices.

(2) Do you consider that support (e.g. direct financial support, priority dispatch or special network fees) for specific energy sources (renewables, coal, nuclear) undermines investments needed to ensure generation adequacy? If yes, how and to what extent?

No. The problem we need to solve is not capacity but dependable dispatchability and flexibility, i.e. meeting demand within the intra-day market and shielding consumers from extremes of price volatility.

There is currently no shortage of power generation capacity in the EU as a whole but the market cannot get rewarded for flexibility. The main challenge is grid stability and the increasing demand for peak load and reserve resources, and the market-balancing needed to support that, as renewables penetration increases.

3) Do you consider that work on the establishment of cross-border day ahead, intraday and balancing markets will contribute to ensuring security of supply? Within what timeframe do you see this happening?

Yes. But one should make a distinction between intra-day trading markets that can offer immediate support to intermittency and the forward capacity markets that are being developed by e.g. UK to provide an incentive for new infrastructure and some limited incentive to maintain existing plant.

Time frame: Technology offer can be ready within the next three years. Limiting factor however are the cross-border grid interconnections.

(4) What additional steps, if any, should be taken at European level to ensure that internal market rules fully contribute to ensuring generation adequacy and security of supply?

There is a lack of incentives to develop demand-response and storage. The services that are needed for supply security and thus should have a price include: demand-side management/ demand-response, storage, virtual power plants (VPP), dependable intra-day dispatch of energy, ancillary services. And a transparent mechanism that clearly shows where the prices for electricity/energy management come from (what services are being paid).

See also answer to question 16.

(5) What additional steps could Member States take to support the effectiveness of the internal market in delivering generation adequacy?

Coordinate potential national actions so as to avoid incompatibility and distortions; Consider carefully the costs and benefits of market intervention; understand clearly what need is not being addressed, target any measures precisely and regularly review any market interventions to ensure they are delivering as intended and not creating perverse incentives.

Remove barriers for regulators wanting to build grid transmissions beyond their borders; Invest in building of interconnectors and other cross-border infrastructure; Reduce permitting times for cross-border infrastructure; Provide RD&D support for new technologies, e.g. energy storage; flexible generation; better forecasting, predictable renewable energies.

(6) How should public authorities reflect the preferences of consumers in relation to security of supply? How can they reflect preferences for lower standards on the part of some consumers?

Public authorities should make the true cost of energy transparent to all users. This would enable them to get a better understanding of the price and can potentially help to change their preferences

or consumption behaviour. This need not equate to requiring all consumers to pay the real costs – for example, more vulnerable residential consumers – but a clear price signal can be highly effective in determining patterns of demand and encouraging greater energy efficiency.

Every electric consumer that can adapt its demand to predictable renewable energy supply (e.g. ocean, geothermal or hydro power) could benefit from their predictability.

(7) Do you consider that there is a need for review of how generation adequacy assessments are carried out in the internal market? In particular, is there a need for more in depth generation adequacy reviews at:

- a. National level
- b. Regional Level
- c. European Level

When the cross-border exchange of energy increases, and when forecast capabilities for variable resources improve, these developments should then be taken into account in the adequacy assessments.

It will be essential, that data as well as the results of the assessments on the various levels are compatible and comparable.

(8) Looking forward, is the generation adequacy outlook produced by ENTSO-E sufficiently detailed? In particular,

- a. Is there a need for a regional or European assessment of the availability of flexible capacity?

Yes.

- b. Are there other areas where this generation adequacy assessment should be made more detailed?

It should be a European wide quantitative assessment on the existing generation, grid and storage, demand-response capacities, e.g. by the regulators to clearly establish whether more generation capacity needs to be incentivized via capacity payments at all.

(9) Do you consider the Electricity Security of Supply Directive to be adequate? If it should be revised, on which points?

The participation of third parties (e.g. private companies) in the development of the grid should be more strongly encouraged and implemented. At present, the market is not very open towards third party actors.

(10) Would you support the introduction of mandatory risk assessments or generation adequacy plans at national and regional level similar to those required under the Gas Security of Supply Regulation?

Yes. It would increase the transparency for all market actors.

(11) Should generation adequacy standards be harmonised across the EU? What should be that standard or how could it be developed taking into account potentially diverging preference regarding security of supply?

No, this is not something you can standardise across countries – each have a unique combination of factors such as energy mix, demand profile, interconnection, national policies, GDP growth etc. that will mean that they will have differing needs.

Improvements of present generation adequacy assessments are however possible. They should become more detailed on national differences especially where they affect flexibility of dispatch and availability of fast-deploying reserve capacity.

(12) Do you consider that capacity mechanisms should be introduced only if and when steps to improve market functioning are clearly insufficient?

Yes. Capacity payments can indeed represent a distortion of the functioning of the internal energy market and their introduction therefore needs to be considered carefully. If at all introduced, they should have a limited life-span, during which a market for the relevant services can develop and ending once it's clear it is no longer needed.

One also needs to make a clear distinction between long-term capacity provisions, e.g. such as the US's PJM with a 3 year ahead auctioning, and short-term flexibility capacity. Shorter term 'flexibility' markets, despite being more market oriented, do not by themselves provide enough revenue guarantee to support large new capability investments, though in the US experience at least, they can send a price signal that specifically incentivizes demand-responsiveness through higher technical requirements and often stricter non-performance penalties. Unless long-term capacity products include similar requirements and also combine them with incentives sufficient to support investment, the new capacity they deliver may not be able to function effectively in short term markets. Naturally both types of mechanism should not be skewed to either favour installed legacy generation or exclude a broad range of new demand-side resources through the technical requirements they impose. As we have noted earlier, mechanisms, if introduced, must be clearly targeted on the problem to be addressed.

Alstom has had experience of implementing capacity markets (PJM) in the US, which shows that long term market participation has not yet created a high level of short term market participation. Our view is that this problem could be solved by long-term capacity products which incentivize investment in demand-side automation, perhaps with higher rewards for more transparent and faster responding resources. This will significantly reduce the differences between long-term and short-term investment requirements, and thus provide for more liquidity in all markets.

(13) Under what circumstances would you consider market functioning to be insufficient:

- a. to ensure that new *flexible* resources are delivered?
- b. to ensure *sufficient* capacity is available to meet demand on the system at times of highest system stress?

Considered insufficient

- **If there would be an increase of European grid failures/near-failures**
- **If the days/hours of negative electricity pricing were increasing**
- **If there were evidence of intermittent renewables posing a problem for the stability of the grid**
- **If the market does not reward flexibility (services)**

(14) In relation to strategic reserves:

- a. Do you consider that the introduction of a strategic reserve can support the transition from a fossil fuel based electricity system or during a nuclear phase out?

We see little value in a strategic reserve and rather predict that it will just hinder retirement of older plants.

Other measures may be better to support this transition: A predictable regulatory framework that incentivizes investments in low-carbon technologies, e.g. by combining feed-in tariffs and priority of dispatch has proven to be effective. A strategic reserve on the other hand does not incentivize a fuel switch but might even discourage investments in new peaking plants, if the reserve is bidding too low prices on the power market.

- b. What risks, if any, to effective competition and the functioning of the internal market do you consider being associated with the introduction of strategic reserves?

If only some plants/generators are chosen to maintain a strategic reserve, non-discriminatory criteria for the selection must be developed and implemented. One needs to avoid a situation where non-selected plants choose to close down, thereby creating a domino effect of more and more plants becoming part of the reserve.

(15) In relation to capacity markets and/or payments:

- a. Which models of capacity market and /or payments do you consider to be most and least distortionary and most compatible with the effective competition and the functioning of the internal market, and why?

Temporary, open to all technologies and services, easily reversible and pan-European models would be the least distortionary and most compatible, while individual national and non-coordinated long-term schemes would be distorting most.

b. Which models of capacity market and /or payments do you consider to be most compatible with ensuring flexibility in a low carbon electricity system?

Models, which reward flexible, peak dependable capacity and speed of dispatch, such as pump storage or hydro power. As well as models, which reward balancing services and demand response.

c. Are there any models of capacity mechanism the introduction of which would be irreversible, or reversible only with great difficulty?

(16) Which models of capacity mechanisms do you consider to have the least impact on costs for final consumers?

We consider capacity markets based on an auctioning system, which rewards flexibility (not capacity) to have the least impact on final electricity costs. The auction should be open to baseload, peak load and reserve, with no-one being able to bid twice for the same capacity. The focus should be on reserve resources/services such as balancing intermittency and dependable intra-day dispatch of energy.

In order for the system to work, a cross-border pan-European market is necessary with sufficient interconnections that allow for the balancing of the grid across national boundaries. Today, there is a lack of financial incentive for reducing pan-European unbalance and of responsibility by the System operators on cross borders pan-European power flow.

(17) To what extent do you consider capacity mechanisms could build on balancing market regimes to encourage flexibility in all its forms?

One should distinguish between efficiency in intra-day trading and developing efficiency auctions of forward capacity.

Rewarding flexibility and dispatchability should be at the core of a capacity mechanism. Building on balancing market regimes can be a good starting point. But the mechanism needs to be cross-border and encourage reducing pan-European unbalance and of responsibility by the System operators on cross borders pan-European power flow.

(18) Should the Commission set out to provide the blueprint for an EU-wide capacity mechanism?

Yes.

(19) Do you consider that the European Commission should develop detailed criteria to assess the compatibility of capacity mechanisms with the internal energy market?

Yes.

(20) Do you consider the detailed criteria set out below to be appropriate?

a. Should any criteria be added to this list?

Dispatchability – allow for transparency between peak load plants, demand response and storage. The market should define the optimum way to deliver (i.e. cost). Flexibility of asset should be rewarded.

Adaptability – thus whether the mechanism can be reversed if the context changes and if it can be harmonized with other schemes, in case the geographical scope is widened

Time of implementation – how complex is the mechanism? How long will it take to be implementing and fully functioning?

Alignment with other objectives – e.g. reduction of subsidies, affordability of energy prices for consumers, emission reduction goals

b. Which, if any, criteria should be given most weight?

Necessity, awarding dispatchability, effectiveness, additional costs to consumers/tax payers, adaptability

Potential detailed criteria to apply to capacity mechanisms

(1) The necessity for a capacity mechanisms should be clearly established in the context of:

a. The potential of the identified needs being met in the normal operation of the internal energy market, in particular:

- increased interconnection and in particular the completion of identified projects of Common interest.*
- steps to encourage effective competition by addressing the position of dominant undertakings.*

b. Alternative, less distortionary measures which could be taken, for example steps to improve energy efficiency or reduce electricity demand.

c. Removing barriers to the effective participation of demand in the electricity market.

(2) The effectiveness of the capacity mechanism addressing the identified market failure should be demonstrated and that it is additional to what would have occurred under normal market rules.

(3) The duration of the application of the capacity mechanism should be clearly limited and clearly specified,

a. the impact on the market of the introduction of capacity mechanisms should not make it difficult to reverse that decision in the future.

b. the necessity of retaining reinstating a capacity mechanism should be subject to review

(4) Any capacity mechanism should be open to electricity undertakings operating in other Member States, to the extent they are able to make the electricity available in markets to which the capacity mechanism is established.

(5) Any capacity mechanism should not act as a barrier to cross border trade or competition in the internal market by

a. artificially altering trade flows or the location of production, in particular by:

- restricting the ability of electricity undertakings in the Member State to sell their electricity to customers elsewhere in the internal market, (i.e. capacity physically located in a Member State should not be reserved for that Member State).

- distorting the commercial behaviour of generators in the day ahead and intraday markets.

- distorting investment signals in the internal market leading to inefficient locational choices.

- distorting investment signals in the internal market leading to the displacement of new investment from one Member State to another.

b. distorting dynamic incentives/crowding out;

- The incentive on consumers or generators to respond to high prices at periods of scarce capacity should not be diminished.

- The mechanism should not undermine incentives on the electricity market to deploy new techniques for demand reduction or electricity storage and generation.

c. Creating market power or exclusionary practices;

- The mechanism should not strengthen or maintain the market power of incumbent firms.

- The mechanism should not act to maintain inefficient market structures or undertakings, acting to deter new entry.

(6) To be non-discriminatory a capacity mechanisms should

a. be allocated after an open competitive bidding process.

b. allow demand response and energy efficiency solutions to bid into capacity markets on an equal basis to generation.

(7) Not be confined to any particular generation technology, i.e. being tech. neutral (insofar as the mechanism is directed towards security of supply concerns – this may not apply if other objectives are also being pursued).

(8) Capacity mechanism should be at least cost:

a. The direct costs imposed on suppliers or others electricity undertakings must be kept to the minimum necessary.

b. Persons providing capacity under the obligation must not be overcompensated.

c. Any selection process in the mechanism should be conducted in a transparent, open and non-discriminatory way which is market based.

d. The duration of any compensation to generators under the mechanism should be clearly justified.

(9) Costs associated with capacity mechanisms should be allocated to the beneficiaries of secure energy supply with different classes of consumers being treated in a non-discriminatory way.