

## **Questions and answers to the Consultation Paper on generation adequacy, capacity mechanisms and the internal market**

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

Currently market prices and spreads in most parts of Europe are at relatively low levels and show little sign of recovery. This shows that there is currently no need for investment in new generation assets, either for baseload or peakload. Prices/spreads have fallen considerably since 2005-08 which was when the last round of investments was initiated, which are now coming to fruition. Therefore, prices indicate that there is currently sufficient capacity available.

Investors need to take a long term view of the development of the electricity market when they take decisions. Forward prices, which are only available for 2-3 years into the future, are of some relevance as they help indicate future market trends. Beyond that, companies in competitive markets have to be responsible for their own decisions.

For the coming years, it is likely that investment decisions will be more to do with maintenance and life-extension of existing assets rather new green-field investment. Later on, we expect that rising prices will incentivize new investment if markets are allowed to function properly.

### **(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?**

Current support schemes for renewables do make investment decisions more difficult by distorting market signals. This is particularly true for feed-in-tariffs with priority dispatch which often places a zero or even a negative value on electricity production at certain times of day. This implies a high level of support for renewables at these time periods, which is very disadvantageous to other generation. In general, more prevalent negative or zero prices will tend to depress forward spreads and undermine future investment. Such extreme outcomes would be less widespread if renewable producers sold their own output and had incentives to respond to market prices efficiently.

In addition, the prospect of ongoing support for renewables and other low carbon technologies creates uncertainty about what the market will be like in 5, 10 or 15 year's time if market signals are displaced by uncertain regulatory signals. For example, the unexpected and rapid increase in photovoltaic capacity has undermined normal market signals and made investment decisions even more difficult. This demonstrates the importance of providing a stable and realistic investment framework.

**(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?**

Under the internal market, there will be a cross border contribution to national security of supply that needs to be recognised. It should be natural and normal for Member States to import electricity at particular times and export at other times. Electricity should flow to where it is most needed.

Market coupling and integration of intraday markets will strongly encourage this process since resources will flow automatically to where they have the most value. Easily accessible cross border day-ahead and intraday markets therefore need to be in place by 2014, backed up by binding network codes. This will provide a significant benefit to security of supply.

Clear European rules are needed about the use of cross border capacity and particularly about curtailment. Curtailment of capacity on the grounds of price developments or other commercial considerations (which may have occurred in the past) should not be permitted.

**(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 are a number of changes that need to be made to improve performance of the energy (MWh) market in terms of giving the correct signals for generation adequacy.

- A more European approach for supporting renewables is necessary.
- Full implementation of third energy package, including the adoption of the target model and the development of comprehensive rules via the network code process, is essential. Harmonisation of market design for all time frames and technologies is needed to ensure a level playing field and to prevent market distortions.
- Abolish regulated prices: Crude ex-ante restrictions on the conduct of market participants need to be brought to an end, such as price caps, bidding caps or constraints to price offers in relation to some multiplier of short run marginal costs. Prices need to be freely determined in all markets, including for end-users.
- Unification of market designs to ensure level playing field and to prevent market distortions.
- All market participants, including RES, need to have strong market-based signals to avoid being out of balance. Imbalance prices should therefore be based on the marginal accepted offers to increase generation or reduce load when the system is short (or marginal bids to reduce generation or increase offtakes when the system is long).
- The cost of operating reserves also needs to be reflected in imbalance prices to ensure that market prices properly reflect the value (opportunity cost) of holding this capacity to protect against scarcity events rather than having these price signals obscured (as now) by the socialisation of reserve costs. .

All these measures can be adopted and implemented through the network codes process. The European Commission should insist on all these measures being implemented as a condition of approval for any further interventions.

In addition, as already noted, a more European and market-oriented approach for supporting renewables is necessary. The revision of the guidelines for environmental state aid should provide an opportunity to achieve this. Any support mechanisms that are not currently considered to be state aids should also be examined more closely, using the “public service obligation” framework in the Directive.

Finally interconnector capacity expansion is also a key European objective. More effort is required in this respect before any further national measures are taken.

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

In addition to the points discussed in question 4, Member States should avoid undermining the internal market through national interventions, e.g. taxes on CO<sub>2</sub>, input taxes for specific forms of electricity generation, uncoordinated capacity markets and uncoordinated renewable energy support schemes which are non-compliant with the energy market.

**(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?**

The installation of time-of-use (SMART) metering alongside time-of-use pricing offers significant potential for individual consumers to choose their own level of security. Most industrial and commercial customers already enjoy such a choice. Time of use metering also offers the prospect of contractual innovation in that customers will be able to negotiate (option) contracts with suppliers to limit the risk associated with high prices during future scarcity events if they choose. This offers a market-driven response to remunerating flexible generating capacity.

For these reasons, the impact of the roll out of time-of-use meters to smaller consumers should feed into the appraisal of the need for any supplemental capacity remuneration mechanisms to avoid undue expenditure and investment in new capacity.

**(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**

**(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?**

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

There is already a high level of monitoring of generation adequacy at both national and European level. However some of these are contradictory or misleading depending on whether a purely national or regional\European approach is taken. As market coupling is extended, there is a need to consider in more detail the interactions between Member States and to explain in more detail where the potential problems exist at a European and regional level, rather than solely on a national level. This is particularly true for market coupling regions.

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

See answer to questions 18/19.

**(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?**

**(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?**

System operators already perform this type of risk assessment and with REMIT, data on system demand, transmission and generation availability is widely available. Sufficient information and planning should therefore be already available and we see no need for additional mandatory assessments either at a national or European level. The ENTSO-E generation adequacy report is already representing an existing standard which serves the relevant need.

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

The introduction of any capacity mechanisms should be preceded by:

- full implementation of the EU target model,
- reform of renewable support mechanisms towards market-oriented approaches fully compatible with the energy market,
- balancing arrangements and pricing which ensure that energy prices properly reflect the value of additional capacity at times of relative scarcity, and
- removal of all ex-ante regulation of wholesale and retail prices,
- improvement of demand management using the potential of smart metering.

These improvements should be a pre-condition of any changes to market design, e.g. the introduction of a capacity mechanism. Member States should also be required to set out plans for grid reinforcement and improving demand side response.

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

**a. to ensure that new *flexible* resources are delivered?**

At present we do not believe that there is a need for specific measures targeted at new flexible resources. There is currently enough flexibility in the system in most Member States in the form of pumped storage, demand side management and the existing generation fleet.

In any case, signals for flexibility should come from the energy market rather than capacity markets. The objective should be that there is sufficient remuneration from a combination of the spot market and ancillary services market to keep flexible resources available. This process has been disrupted by the rapid expansion of PV generation that has artificially smoothed out some of the natural price peaks.

**b. to ensure *sufficient* capacity is available to meet demand on the system at times of highest system stress?**

Markets will function insufficiently in this respect if regulation hampers price signals: e.g. price caps, bidding caps (Germany), and positive discrimination in favour of intermittent renewables. The failure of market prices to reflect observed situations of system stress is a clear indication that market functioning is insufficient. Similarly situations where market participants go into gate closure with a short position at times of system stress are also indicative of problems. This has been recorded in both the UK<sup>1</sup> and in Germany<sup>2</sup>. Changes to network rules are therefore needed so that price signals are sufficient for market participants to be disciplined in the management of their portfolios, and to deal with events such as plant outages and demand variations. Ad hoc and discretionary interventions hamper the investment case for reliable power generating capacity.

**(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?**

**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?**

A strategic reserve is a possible instrument that can be used to supplement the existing procurement of reserve resources. If well designed, there need not be any negative effects for the functioning of the internal energy market, even if measures are

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<sup>1</sup> Ofgem cash out review issues paper:

<http://www.ofgem.gov.uk/Markets/WhlMkts/CompanEff/CashoutRev/Documents1/Electricity%20cash-out%20issues%20paper.pdf>

<sup>2</sup> BNA decision to modify balancing energy price calculation

[http://www.bundesnetzagentur.de/cln\\_1931/DE/DieBundesnetzagentur/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK6/2012/BK6-12-001bis100/BK6-12-024/BK6-12-024\\_Beschluss.html?nn=55332](http://www.bundesnetzagentur.de/cln_1931/DE/DieBundesnetzagentur/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK6/2012/BK6-12-001bis100/BK6-12-024/BK6-12-024_Beschluss.html?nn=55332)

introduced on a national basis. It should, however, be accompanied by the measures set out in response to Question 12.

One possible regulatory risk is that the strike price of the strategic reserve is set too low. This would mean that the reserve would be dispatched in such a way to suppress prices. Market functioning would be negatively affected. A high strike price (e.g. 3000 €/MWh or more) is a necessary precondition for the stability of market design with a strategic reserve. A high strike price also reduces the scope for market distortions in the European internal market.

However a situation where there is no specific mechanism or a strategic reserve on one side of a national border, and a fully fledged capacity market on the other side should be avoided. This will inevitably bring distortions and inefficiencies, threaten the objectives of the internal market, and unfairly penalise companies which do not benefit from general capacity market payments.

**(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?**

Apart from a properly designed strategic reserve, all kinds of **national** capacity markets have the potential to heavily distort the internal energy market. If such interventions are made, we would strongly recommend that these should be at a European, or at least regional, level, with a single unit price for reliable capacity. Some important features are set out below.

- a) If national capacity mechanisms are implemented, their general impact on wholesale electricity prices needs to be taken into account. Specific rewards to capacity will tend to make wholesale prices in that Member State lower than would otherwise be the case. This will feed through into neighbouring Member States. So capacity markets must be introduced in a coordinated way at regional level. In addition if capacity mechanisms influence wholesale electricity prices they risk defeating their own purpose and not, in the end, providing additional revenue.
- b) If the wholesale prices in the Member State are lower because of the national capacity mechanism it would be economical to export energy to the higher priced area leading to even more capacity having to be remunerated. So at the end of the day consumers in the Member State with the capacity mechanism will have to pay for the security of supply in the other state(s).
- c) The required capacity and/or demand reduction should be procured in a competitive procedure (e.g. an auction) to ensure the least cost provision of capacity. Capacity contracts should only be for a single year and apply to the generality of generation capacity. Differential contracts to underwrite particular investments are not acceptable.
- d) There should be a simple set of rules. More criteria, e.g. efficiency standards, flexibility or fuel, hamper efficient results and are not needed as there are

other instruments already in place to target the relevant objectives. Simple auction rules also strengthen competition between technologies.

- e) **Most importantly, there should be no discrimination:** only a single auction process for the entire required capacity is able to guarantee an efficient result. Every megawatt available contributes to the objective of generation adequacy. As a consequence, every megawatt should have the same capacity price and contract duration. This supports simplicity as well as competitiveness and efficiency.
- A non-discriminatory approach is **effective** with respect to the overall objective. All relevant capacity is addressed and remunerated. In contrast, a capacity market for just a subset of capacity cannot guarantee that the target will be met. If, for example, only new plants are remunerated, the achievement of the capacity target would be a fortunate coincidence, whereas an over- or undershoot is much more likely.
  - A non-discriminatory approach is **efficient**. The defined adequacy target will be reached by lowest economic costs. If, for example, only new plants are remunerated, or have longer contract durations, the crowding-out of cheaper existing assets by expensive new ones will lead to unnecessary additional economic costs. The same is true if differential capacity markets are introduced, e.g. one for existing plants with an administered price, and one for new plants. If the administered price is too low, a greater part of existing plants will be decommissioned. This endangers the overall adequacy target, which will inevitably be ineffective. On the other hand, more expensive new power plants have to be attracted to fill the growing gap. This leads again to unnecessary additional costs.

**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?**

Flexibility in the face of low carbon generation should not be dealt with through the capacity market. These issues should be addressed through the energy (MWh) market by normal market processes i.e. through option contracts, interruptible contracts, responses to day ahead and intraday prices. In addition, separate redispatch and ancillary services can be sold to TSOs to reward flexibility.

This means it is important for any capacity mechanisms to be accompanied by complementary measures to reinforce the current MWh market. These are set out in the response to Questions 4 and 12 above.

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

After introduction, a strategic reserve could be cancelled without great difficulty or be subsumed into the portfolio of reserve products procured by the TSO. Likewise it could also be transformed into a full-fledged capacity market.

Just as for a strategic reserve, a capacity market could be - from a pure technical point of view - cancelled at any time. Alternatively capacity prices might fall to zero if the incentives from the energy market are sufficient. Nevertheless, any capacity market should be regarded as a long term instrument for ensuring generation adequacy, over

and above expected energy-only market outcome if it is to ever provide a credible basis for investment in plant life extensions or new capacity. Even the prospect of frequent regulatory changes leads to high risk premia for investors or even a wait-and-see position, which can in itself undermine the benefit of the intervention and negatively affect the functioning of market. Capacity markets should also be designed in a “no regrets” fashion such that they can be phased out in the face of future technological progress and wider energy market developments such as universal smart metering, decentralised generation and active demand response phased out (albeit in a fashion which grandfathers existing commitments to protect investors’ legitimate expectations).

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

Strategic Reserve is likely to have a lower impact on costs for final consumers, particularly in the context of the internal market. On the other hand, the security-of-supply level concerning generation adequacy is likely to be lower compared to a full fledged capacity market (and possibly below a political acceptable level), but higher compared to an energy-only approach.

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

Flexibility must be sufficiently remunerated in spot, balancing, and ancillary service markets. These need to be improved and strengthened, regardless of whether a capacity mechanism is introduced. See also the response to question 4.

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

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

We support the idea of the Commission developing a blueprint, or a set of detailed criteria. If not, there is a clear risk that any kind of **national** capacity markets will distort the level playing field within the EU internal market. For example, individual national capacity mechanisms are likely to impact – positively or negatively – on investors and thus security of supply in neighbouring countries.

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

**a. Should any criteria be added to this list?**

No.

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

In general, we support the draft criteria – see also our answer to question 15, where we mentioned important criteria to apply to capacity markets.



Detailed comments are set out against the criteria in bold italics below. The most important point is that mechanisms should be non-discriminatory by technology, between existing and new capacity and between national and other capacity.

- (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.

***Comment: We agree.***

- (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.

***Comment: We agree.***

- (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.

***Comment: We do not agree. Only a strategic reserve would fulfil that criterion. A capacity market which targets a certain level of generation adequacy is a long term instrument and should have a stable framework. The expectation should therefore be that the capacity mechanism should be capable of staying in place without a fixed end point: There is no need to limit its duration. While it should nevertheless be possible to phase out a capacity mechanism in future – in the event that technological and market developments make such a market unnecessary - this can only be done with a clear ex ante commitment to grandfathering any investment made under the mechanism.***

- (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.

***Comment: We agree. Any national capacity market will be a clear distortion of the internal market.***

- (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.

***Comment: We support the criteria listed in a. and b. which, we would argue, precludes a purely national scheme. It is unclear what is meant by the criteria in point c. but any mechanisms should be non-discriminatory and reward capacity – whether existing or new - equally.***

- (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.

***Comment: We agree in principle that capacity mechanisms must be non-discriminatory in remunerating all forms of capacity which can protect against scarcity events in energy markets and demand side response can clearly play a role here. There are several practical issues associated with defining a baseline for demand response and these need to be resolved.***

***It is less clear that energy efficiency solutions – as opposed to demand response – can be effectively integrated into capacity mechanisms. Energy efficiency is a different product to a scarcity response and it becomes difficult – perhaps impossible – to quantify the additional, incremental response at times of scarcity. There are also potential distortions to wider energy (non-electricity) and carbon markets associated with remunerating one form of carbon abatement differently to others.***

- (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).

***Comment: Any mechanism should be technology neutral without exception. Multiple objectives will hamper efficiency of capacity markets. The phrase in brackets should be deleted since this is highly problematic.***

- (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.

***Comment: We disagree with the thrust of these two sub-criteria since it is unclear what is meant with overcompensation. If a capacity market is to be introduced it should aim at providing an unbiased valuation of the value of capacity, based on a policy decision to reward an amount of capacity beyond the levels provided from the energy (MWh) market. Once a market-based capacity price is established, all generators should then be remunerated on the same basis.***

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

***Comment: We agree with this criteria and it should be used in preference to criteria 7 above.***

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

***Comment: A capacity market is, in principle, a long term instrument. Investors need***

*a certain degree of policy certainty.*

(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.

*No comment.*