EnBW-Response

To the Consultation Paper on generation adequacy, capacity mechanisms and the internal market in electricity

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Questions

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

First of all, it needs to be recognised that investments in power generation capacities are mainly based on long-term decisions and thus expected future (fundamental) market conditions are key factors. Therefore, focusing on current market conditions/prices is not necessarily a sufficient indicator regarding generation adequacy. Additionally, it is key to evaluate the situation with an integrated European view; e.g. in some cases interconnector capacity extension might be more efficient than new built generation.
Generally, we do not see evidence that current market prices prevent investments in needed generation capacity; there is just no need for additional capacity. Current market prices and spreads e.g. in the German market do in fact reflect that there is currently no fundamental gap which could trigger investment signals. Insofar the market does not indicate an urgent need for new generation capacity. In this context it is important to take into account that considerable new generation capacity is scheduled for start of operation in the short to mid-term future.
Still, one could consider an adaption/modification of existing market mechanisms such as considering ancillary services markets also for forward timeframes for Continental Europe (e.g. (multi)annual products).
Even though storage of "electricity" is considered being a key component for a successful transformation towards a renewable based energy supply system, actual market conditions (price spreads) do not allow to favourably developing large scale storage projects such as pump hydro plants. Due to their long realisation duration time such plants might not be available in time when needed more urgently.

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?**

Generally, any such measure will have an impact on the market and finally distort the formation of market prices. Support for specific energy sources alters the investment in these energy sources which, of course, is a desired effect of e.g. renewable energy policies. As any new capacities, these "additional" capacities coming into the market will influence the market prices if it is dispatched. As a consequence investment in generation capacity that is not supported by such mechanisms will be altered; usually, one would expect it to be reduced. However, a reduced investment into non-supported generation capacity alone is no indicator that investment needed to ensure generation adequacy will not take place.
With respect to renewables and the significant increase it becomes more and more evident, that a "produce and forget" approach is not sustainable and that they need to also become subject to "normal" market rules for dispatch and balancing. The direct marketing approach as implemented in Germany is an important step to bring renewables into the market; and it can be shown that renewables can in fact contribute to security of supply through this mechanism (e.g. Christmas time 2012 where significant amounts of wind production did react to spot price signals and thus did not feed in). Thus we believe that newly installed renewables should be obliged to participate in such direct marketing mechanisms and being balance responsible and also forcing them to react to wholesale price signals.

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, integrating wholesale markets across the different timeframes will increase the security of supply as it will further enhance the optimised usage of available capacities. It is crucial to ensure that security of supply must be assessed from an integrated European perspective. Any national or autarkic view ignores the fact that these markets are part of the larger EU market and thus will result in an overestimation of security of supply needs. Thus, it is important to continue to put efforts towards the implementation of the internal market; practically, this means to further optimise the usage of the existing cross-border capacities while also evaluating the extension of these capacities.
There is already an on-going bottom-up process where different initiatives have started:

- Day- ahead market coupling: PT/ES; CZ/HU/SK; FR/DE/Benelux/Nordpool
- Cross-border intraday: ES/PT; FR/DE/AT; DE/Benelux/Nordpool)
- Cross-border balancing: International Grid Control Cooperation (DE/CH/NL/BE/CZ).

At the same time there is intense work underway for the top-down approach, i.e. setting up framework guidelines leading to network codes.

Still, all these efforts should not substitute the needed extension of cross-border capacities plus a close cooperation between TSOs (e.g. regarding capacity calculation).

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?**

Generally, we believe that in order to achieve an internal market, further harmonising of key aspects are necessary; this includes general market design aspects and support schemes. At the same time market interventions need to be reduced to a minimum to avoid distortions (e.g. regulated prices; specific national taxes (e.g. generation tax in NL, ES); national trading licenses and fees).
A stable framework that also allows to develop innovative products and encourages to offer flexibility products to the market is essential (e.g. demand side response).

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

Last months showed new tendencies for some self-centeredness in several member states. Governments tend to solve national problems without regard on cross-border effects. Coming back to a general confession to the internal marked besides all lip services would be essential. Full and speedy implementation of the third energy package would then be a result. A clear and honest confession to marked mechanisms would be a big step forward. A common energy wholesale market can only be driven from a European perspective with national governments and competent regulators ensuring that the key elements of the respective national markets are aligned with this approach. When considering generation adequacy, it seems also important to have a closer look at the gas markets and recognize the interdependencies between electricity and gas markets. Thus, we support further improvement of gas wholesale markets as this allows generators to have flexible access to transmission capacities and sources at liquid wholesale markets.

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?

Currently, consumers have no or only very limited possibility to express their preference in relation to security of supply. Thus it could well be considered to develop a framework where consumers actually have a choice in the trade-off between price and security of supply. This could e.g. mean that the supplier is forced to manage the security of supply level (from a generation point of view) for their customers in order to maintain balanced position. Suppliers will then have a vital interest in creating adequate levels of security of supply in relation to the preferences of their customers.

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

No

b. Regional Level

No

c. European Level

In our view the most relevant assessment should be done with a cross-border regional and European perspective taking into account interconnection capacities. This makes even more sense with the increasing integration of the internal energy market and national energy markets being opened up steadily. Thus a pure autarkic national perspective should be avoided as it will never reflect the real picture; in turn it will most likely produce overestimated results.

Generally, in order to guarantee comparability of different assessment results there we would support such a review with the objective to create a harmonized assessment procedure.

Certainly, with renewables being obliged to also participate in the market (e.g. balancing responsibility) they should also take into account these assessments.

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. In some countries structures of power generation are changing quickly. In some of them these changes are caused by a boosting development of renewable energies. As there is a high probability for regionally needed flexible capacities with impact for the whole internal market there is a need for a European assessment.

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

Because of the quick changes mentioned values of assessment results are short lived. They should be carried out twice a year.

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

Since the directive came into force in 2005/2006 the energy markets have changed dramatically. At the time some of the main provisions were introduced with a national focus: Certainly, there is also the perspective to create a European market when addressing issues such as improvement of cross border connections and cooperation, promotion of energy efficiency and renewable energies. By now, we are on a path where these objectives are well developed. As mentioned before, with a clear focus on regional/European developments and challenges to achieve an internal energy market is crucial to clearly move away from plans for national generation autarchy. Thus we think that, if the directive would be revised, it should be in this respect (and also taking into account the target model; network codes and cross-border guidelines).

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?**

As the dependency on imports from only few producers is one of the key-elements of security of supply in the gas-sector and capacities in the electricity sector a highly diversified, it is difficult to compare both sectors. In general as mentioned above there is a need for harmonized data on generation capacities.

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?**

Yes, we need a harmonized approach for adequacy standards. Adequate market signals are endangered by various national interventions. Differing favorites and focuses of national governments and regulators should not be relevant on EU level. They tend to undermine the internal market.

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

This depends on the way "sufficiency" is defined. If markets are expected to fulfill non-economic goals like total supply security under conditions of national (or even regional) autarky, markets will never be "sufficient" in the European context, even if a maximum of market efficiency is achieved. If market "sufficiency" is defined by the ability to achieve an amount of security of supply which is optimal in the trans-national European context, it is very likely that markets will be able to bring this about. Especially if obstacles to use flexibility potentials and demand-side measures in MS are overcome, there is hardly any systematic reason for markets not to perform sufficiently. Security of supply has not been reduced after the introduction of power markets in Europe.

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

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

If flexibility is scarce, markets pay a premium for it while penalizing inflexibility. If the minimal operation duration period of a plant is too long to follow individual short price peak periods, it will not be able to profit from them. Besides this, there are still some potentials remaining that could be utilized more extensively, e.g. by exposing CHPs to the power market and change their inflexible 'must run' characteristic by installing heat storage or to better exploit existing demand

side potentials by creating a clear-cut regulatory environment allowing for clearly defined market roles and responsibilities (e.g. currently not existing in Germany)..

Generally, if markets work properly, flexibility will be rewarded adequately; thus any regulatory/political intervention in functioning markets will distort this principle, ultimately leading to situation where not sufficient flexibility is provided.

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

Markets so far have always been able to deliver a sufficient amount of capacity even in times of highest system stress. In CWE, there is currently no capacity problem to be observed and we do not expect this to occur before the end of the decade. So far there is still a lack of sound empirical and model-based analysis clearly showing markets systematic and empirical inability to meet demand. It might be a good idea to undergo that exercise on the European level.

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?**

The increasing RES penetration induces a process of structural change for the conventional generation system. At present the final optimal state of the power generation system is not at all visible, especially as the process of structural change is not driven by RES alone, but also by other modifications in the overall European market design (2014 targets). Consequently, it will not be advisable in the short and medium term to introduce mechanisms in addition to the market mechanism to incentivize irreversible and politics-driven investments that might ex post turn out to be stranded. Thus, a strategic reserve might be the means of choice to overcome that dilemma as it only refers to reversible interventions and leaves markets undistorted.

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 designed properly, a Strategic Reserve has only a minimal (if any) impact on the functioning of markets and competition. Proper design particularly implies that the reserve system allows for genuine scarcity prices to occur, i.e. that the threshold price at which the reserve holder (e.g. the TSO) offers the reserve to the market is high enough to signalize a scarcity situation to the market.

In order to be non-distortive, a strategic reserve should ideally fulfill the following criteria:

- Transparent pricing and activation rules
- Reversibility
- Inclusion of demand side
- Europe-wide (no total harmonization necessary)
- If necessary it may comprise a regional component for re-dispatch

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?**

Basically, a capacity market model can be expected to be more detrimental the more parameters it provides for political or regulatory discretion. For example, if a model leaves it to political planners to define the generation structure (by allowing to define bidding restrictions for generators via a 'pre-qualification' procedure), the generation structure will no longer be a result of market-based decisions but of political preferences. There are several other parameters that have to be defined if a model is complicated, e.g. if a capacity auction is envisaged, a political or regulatory authority must define

- the amount of capacity needed
- the slope of the demand curve
- bidding rules, including rules for demand side, energy efficiency measures and non-domestic capacity suppliers
- if necessary: bidding areas
- etc.

All of these aspects have the potential to critically influence auction outcomes and income distribution.

It is not determined by nature that an efficient complex capacity mechanism is impossible to design, but examples of such approaches in the U.S show that this is not at all an easy task and needed to be redesigned several times, creating a great deal of unpredictability for investors,

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?**

As mentioned before, a Strategic Reserve is least invasive, but it is only a transitory solution. If market participants demand reliable capacity, markets for respective products will evolve, e.g. for long term contracts.

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

The need to reverse results of a capacity mechanism can be created by any mechanism that incentivizes generation capacities which otherwise would not have been built in a market environment. Provided that planning authorities are risk aversive, they will tend to offer incentives to install overcapacities which will then turn out to be stranded and need to be funded by non-market mechanisms.

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

Experiences in Sweden and Finland show a reasonable cost-benefit ratio for the strategic reserve. In Winter 2009/2010 in Finland it lead to additional costs of € 22 per MW/a. In 2010/2011 the cost rose to € 25 per MW/a. In Germany a survey calculated additional costs of approximately € 35 per MW/a.

assuming that the same cost range would occur in Germany as in Finland (€ 25 per MW/a), this would result in an amount of 80-150 Mio. € for a Strategic Reserve of 4-7.5% of peak demand which in turn would lead to additional costs for consumers of between 0.06 and 0.1 ct./kwh.

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

Capacity mechanisms and balancing market regimes address different time frames. Nevertheless real-time related balancing markets and long-term related capacity mechanisms interfere with each other. Therefore to reach full benefit from capacities remunerated, these new capacities should be allowed to participate in all market segments as far the investor wishes to. There also should be no obligations to participate in the balancing market. All restrictions or obligations concerning the participation of capacities remunerated would lead to further distortions of the Energy Only Market.

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

If extensive analysis provides sufficient indication for a need for capacity mechanisms it in deed should be coordinated/ designed with a European perspective, particularly in the light that currently different Member States for various reasons already have introduced, are in the course to introduce or are planning to introduce forms of capacity mechanisms. We think that a closer involvement/coordination of the EU-Com would be a good approach to avoid potential detrimental effects on neighboring markets or the entire internal market.
Generally, we think that currently the data available are not comprehensive enough and no analysis provides compelling evidence for a need to set up such a process. Setting up such a blueprint would be a massive intervention – and the attestation liberalization and market design carried out since 1996 failed.

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. With respect to the interdependencies of national capacity mechanisms and national energy policies and the probable market distortions, it seems vital that the EU-Commission plays a key role. We therefore agree with the European that it is important that if Member States decide to implement capacity mechanisms to clearly show that these measures are necessary, proportionate and ideally only a transitional necessity.

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

In our view the list of criteria is ample in reference to capacity mechanisms and instruments. We do not only favor a limitation of the mechanisms only by duration but also other conditions, e.g. the progress how far security of supply is reached on a level near to 100 per cent or other overarching targets of the EU

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

Yes. Before capacity mechanisms are placed all over the European Union other market-distorting national regulatory obstacles have to be removed in the first place. For example, power produced by renewable energies has to compete with other fossile-based forms of power before capacity mechanisms are introduced. Before market-distortion and thus missing natural price peaks and dents deriving from a non-discriminatory competition of all forms of power is not in place, capacity mechanisms cannot not get down to the root of the market distortion.

Feed-in tariff schemes like in Germany and Spain have to be replaced by market-based auctioning or quota schemes.

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

In our view, the criteria No. 1, 5 and 6 are the most important ones. Furthermore, we suggest the following additional criteria:

- Further harmonization of already interconnected countries and regions
- The most important thing for managing the shift to an oil- and gas-independent renewables based energy supply is to attract and keep potent and confident investors. For this reason, a stable and on a long-term basis predictable regulatory environment is of utmost importance
- Ensure long term revenue stability for generators in order to guarantee a fair remuneration of investments

Detailed comments on the criteria

1. *The necessity for a capacity mechanism 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:*

      i. *increased interconnection and in particular the completion of identified projects of Common interest.*

      While many projects of common interest and TEN-E are delayed, it is necessary in our view to keep at least a certain number of conventional power plants available (even financially supported in case they are not profitably anymore).

   b. *Alternative, less distortionary measures which could be taken, for example steps to improve energy efficiency or reduce electricity demand.*
   We support instruments in order to improve energy efficiency and reduce the use of power on a long-term basis. Apart from any newly installed capacity mechanism, these tools should always be in the focus of the EU and have to be enlarged as much as possible.

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

   We believe that a well-designed and well implemented energy market offers appropriate and sufficient diversified opportunities (via day ahead market, intraday market, balancing market (including ancillaries services)) to attract effective demand participation in the market taking into account the demand flexibility characteristics.

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.*

   The demonstration of the effectiveness of the chosen capacity mechanism should take place before the capacity remuneration mechanism is introduced in order to avoid incalculable detriments and the further distortion of the market.

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.*

We support easily and quickly installable mechanisms such as the strategic reserve to guarantee the functioning of the power system for a limited period of time (up to 10 years) as it can be phased out easily without re-changing the power system as a whole.

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

As with all regulatory measures in the energy field permanent review by monitoring the accomplished intermediate steps is important to ensure the envisaged consequence of the introduced measure. Especially case different capacity mechanism models are set up in different Member States, a permanent overall monitoring process is necessary to reveal gaps and inconsistencies. When it comes to any changes to the existing capacity model, a thorough consultation procedure with all stakeholders is necessary to ensure market-driven regulatory solutions.

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.*

We agree to this statement.

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:*

i. *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).*

We agree.

ii. *distorting the commercial behavior of generators in the day ahead and intraday markets.*

No comment.

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

In order to minimize market distortions, CRM's should be coordinated between neighboring countries in order to come to an overall optimal adequacy.

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

See our comment under 5. a. iii.

b. *distorting dynamic incentives/crowding out;*

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

We agree.

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

See our comment under 1.c.

c. *creating market power or exclusionary practices;*

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

Already now, the position of market incumbents is changing continuously in favour of new market participants. When an integrated internal energy market all over Europe will have been established, the position of a market player should not play a role anymore.

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

It is necessary to set up a non-discriminatory capacity remuneration mechanism in order to ensure an energy source independent competition. A strategic reserve would help on a short term basis to ensure security of supply without deterring the market and the entrance of new players.

6. *To be non-discriminatory a capacity mechanisms should*

a. *be allocated after an open competitive bidding process.*

We agree.

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

We believe that a well-designed and well implemented energy market offers sufficient appropriate opportunities to attract demand response. Too low price caps in energy markets will discourage demand response.

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).*

We agree.

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.*

I our view, setting up a strategic reserve at least on a short and medium term basis is the most cost-efficient solution at the moment. The market itself does not have to be completely changed as the intervention into the market is kept to a minimum.

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

It is necessary to ensure an adequate remuneration for providing capacity to incentivise generators to take part in the application process for needed capacities. This has nothing to do with overcompensation.

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

We agree.

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

The regulation must be valid sufficiently long enough in order to ensure confidence and stability for investors.

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.*

   It is necessary to avoid overcompensation for generators and "over-burden" for customers. This should be seen in the context to delete market-distorting feed-in schemes in the first place especially for RES before setting up a capacity mechanism which causes unavoidable costs in the second place.