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European Commission
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Internal Market II: Wholesale markets;
electricity & gas

Swedenergy response to EC Public Consultation on generation adequacy, capacity mechanism and the internal market in electricity

Swedenergy is the united voice of Swedish power industry. Swedenergy is representing companies involved in the production, distribution and trading of electricity in Sweden – with a total of 171 member groups.

General Comments

We find the consultation document and questions very relevant and topical. However, there is one clear shortcoming in the document. It would have been useful to analyse today's situation in more detail and assess whether there is anything that could be done to improve it by acting on the causes for the wrong developments instead of introducing new measures such as capacity mechanisms. Taking this approach we risk that we are just looking for a cure for the symptoms but don't address the root causes for today's situation. Uncoordinated national renewable subsidy schemes, lack of balancing responsibility for RES, priority treatment of renewable energy in the electricity system, national CO2 taxes, regulated end user prices and other subsidies are the root cause for current market failures and therefore there should be a clear commitment to start working on those issues. Trying to cure wrong incentives with a new set of regulations or subsidies will not cure the original disease.

Our assessment is that the EU internal energy market is now genuinely at a cross-road - either the EU rapidly changes the course and starts putting member states back on track regarding uncoordinated national measures, or we will very soon see a rapid deterioration of the basis for the common EU energy market.

In our view, there are three main measures to improve the internal market and address generation adequacy: exposing all actors (including RES producers and demand) to market prices in the energy and balancing markets, improving demand flexibility by investing in infrastructure for example smart meters and improving the European transmission grid. Efficient and non-discriminatory utilisation of the European transmission grid is a prerequisite for the development towards a true pan-European electricity market. Increased investment in transmission lines allows member states to pool and share generation resources and thereby reduces the need for purely national reserves. Further integration of the European grids by expanding the



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transmission capacity is therefore a measure that should be taken before considering capacity mechanisms.

In Swedenergy's view a good market design exposing actors to prices and allowing them to react combined with sufficient transmission capacity is sufficient to ensure a good level of security of supply. In this context it is important that regulators and member states clearly define a method to find the level of security that is required so that the TSOs should know what level to strive for and what measures and cost are necessary.

Only if the above mentioned measures to allow the market to work and provide generation adequacy have been taken and proven not to be sufficient or to address temporary challenges in transition periods to for example more grid and more demand flexibility, the introduction of capacity mechanisms should be considered.

In that case, any capacity mechanism must be carefully evaluated so that it doesn't interfere with a functioning market. In addition, the capacity remuneration mechanisms (CRMs) must be designed in a coordinated way between the member states to avoid effects on competition. From the internal market point of view it is not useful to design CRMs solely from the point of view of one member state. In addition a sunset clause and review mechanism should be included in the CRM from the start to avoid new permanent subsidies.

In our view, strategic reserves used as a measure of last resort are the least harmful kind of CRM. If a CRM is introduced it is of utmost importance that it does not interfere with daily price formation. The capacity mechanism should only be used to address real time security of supply concerns in extreme situations. It must be transparent, predictable and contribute to a well-functioning electricity market where each player is responsible for their commitments. It should be reversible and encourage demand response. A capacity mechanism should not deter profitability by crowding out generation and demand adjustments excluded from the mechanism as this would erode long run system security. In summary Swedenergy considers that;

- A well-functioning price formation is the core in the solution to address any generation adequacy concerns. The price formation gives necessary scarcity signals and provides a very clear signal that further adjustments may be necessary.
- The Member States should define the level of generation adequacy that is desired and acceptable for society within a particular area. The level is imperative when deciding if and how much capacity to procure.
- TSOs should have the task to ensure the decided real time security of supply level. If they in continuous evaluations see a lack in real time supply security they should have the mandate to procure a strategic reserve after an appropriate cost benefit assessment. The ambition should be to have as small

strategic reserves as possible and after while be able to move away from strategic reserves completely.

- The strategic reserve must not at any moment distort the price formation, i.e. it should not depress prices in forward, day-ahead, intraday or real time markets. The strategic reserve should only be used as a last resort measure to make demand meet supply in real time. Thus, the strategic reserve must be surrounded by strict rules of its use and must be monitored by competent authorities.

Reply to questions in the consultation

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

In principle no, power market prices are based on the supply-demand balance for the short-term trading and on market parties' expectations and hedging needs in the forward trading for some years ahead. For investment decisions the investors need to make their own assumptions regarding future long term prices, as investments cannot be based on short-term or mid-term market prices. In a market-based environment, investors will invest when they expect the future market prices (and the contract prices for balancing reserves) to cover the full costs of new capacity. Investments in modernisation and environmental improvements of existing capacity are similarly based on market-price expectations (incl. price volatility for flexible generation) for the future years after the investments are completed. An undistorted power market is best in providing clear price signals to investors what kind and what volume of future capacities is needed even if market conditions are changing by fluctuating RES technologies

However, currently there are distortions to the price formation in the energy only market such as price caps, priority access of certain technologies, subsidies on RES etc, which currently reduce electricity price peaks but increase the cost on the net, cost to consumers and the cost of balancing. Especially flexible power plants benefit from short-lived price peaks, therefore investment becomes risky as there is no profit from the price peaks.

Today's distorted market and the increasing political risks and red tape for generation investment other than RES is not promoting new investments - other than those based on subsidies. Only a minor share of new investments today is market based. Market prices cannot deliver in an overly complex environment with multiple overlapping policies and steering mechanisms, so the first step should be to make RES subsidies market compatible and create a stable regulatory environment to allow markets to work.

(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?

Special treatment of particular technologies indeed affects and may discourage investments in technologies providing characteristics needed. Any support scheme distorts price formation in an energy only market and thus to some extent reduces the incentives for efficient investment ensuring generation adequacy. The extent of the damage caused by the subsidies depends on the way the support is given and on the character of the supported technology. For example a onetime investment support paid to a generator affects the market less as it doesn't influence the marginal price on the market than support paid per MWh produced such as in the case of feed-in-tariffs, nevertheless it still influence price expectations and hence future investments. Priority dispatch for RES currently distorts the markets and leads to negative price situations, but it would be a lot less harmful if the priority dispatch was only granted to generators in combination with their full exposure to market prices in electricity and balancing. So a lot depends on the design of the support scheme, however any need for support implies that the overall generation assets were financially inefficient compared to a non-distorted energy only market so support scheme should be gradually phased out.

Energy from renewables significantly contributes to Europe's climate objectives. As long as renewable technologies are at a very early development stage and present only a small share of generation an out-of-market support scheme may be appropriate. However, as renewable technology becomes more and more mature and the feed-in of renewables present a significant share of generation, the wholesale electricity markets become more and more distorted. Growing penetration of renewable energy in electricity generation has reduced the operating hours of conventional plants and the spread between base and peak load prices. Lack of balancing responsibility and lack of exposure to electricity prices has led to situation with extreme overproduction and negative prices. Therefore, the mid to long-term objective should be to integrate renewables fully in the market, to take system responsibility for meeting scheduling, nomination and balancing. Intermittent sources such as solar and wind power can, if supported, threaten overall generation adequacy as the price profile facing the market becomes more volatile. This increase risk and make investment decisions more difficult. Insofar those intermittent sources take their own balancing costs and the development is evolutionary, this would be included in normal market risk.

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, market integration on all timeframes considerably improves security of supply, as resources from the whole area can be automatically used to cover a deficit in one of the areas. Generation and demand trading them into balance close to real time in the day ahead and intraday markets support

balancing carried out in the real time market. The integration of balancing markets requires the TSOs to share resources from a common merit order will advance, which will reduce cost and increase real time security of supply. Properly established the markets will provide the price signals necessary for furthering security of supply. A price that accurately reflects scarcity is a superior to any administered CRMs in the short and the long run.

(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?

To allow the integrated market to work, mechanisms and subsidies distorting prices should be removed so that all generation resources compete on equal terms, be dispatched based on the market prices and that each and all are responsible for their imbalances. In addition, regulated prices and price caps need to be removed to allow demand flexibility to come in and give correct incentives to generation investment.

In addition, to facilitate the function of the markets the functioning of the electricity grid needs to be improved by the expansion of interconnection capacity and by an improved usage of the existing transmission grid, which can be achieved by a common calculation of available transmission capacities. All network codes should require towards strong cooperation and common calculations between the TSOs.

Furthermore there should be a more European approach in supporting renewables in which RES are integrated into the wholesale market and take full balancing responsibility.

Demand response should be further developed by supporting the development of a smart grid and smart meters for example through work on research and common standards and removing regulated consumer prices.

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

Member States should work for the full implementation of the 3rd energy package in their respective countries. The 3rd package incorporates important measures such as the removal of regulated prices and price caps, but also the roll out of smart meters which would enable wider demand response. Making the internal market work (infrastructure development, market coupling, regional cooperation etc.) is to the large extent a question of political will and commitment from the member states.

Member States could make another contribution by speeding up the permission process for both generation and transmission. Currently unpredictable permission and concession processes increase the cost, delay and even prevent investment in new generation and grid capacity, needed to increase generation adequacy.

Most TSO's have substantial tasks requiring huge resources to further develop the transmission system included new interconnectors. We believe it could be beneficial for the society if also other stakeholders with resources and interest to a larger degree were allowed to develop and build new interconnectors based on strict licensee requirements, so called merchant projects/cables. We see a tendency that national authorities instead of accepting the limited role of merchant projects instead almost totally exclude this alternative. We think this is both unnecessarily and harms the development of an efficient European power market.

Existing capacity remuneration mechanisms should be phased out through more reliance on cross-border trade and on market-based demand response, as capacity mechanisms can distort markets and endanger generation adequacy for neighbouring Member States.

Swedenergy considers that in the day-ahead and intraday markets the market arrangement can ensure security of supply that is acceptable to consumers. The first step would be to remunerate demand and supply flexibility through exposing end-customers to correct price signals.

(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?

It is our belief that security and availability of supply and affordable electricity prices are the most important requirement for the majority of customers.

Consumers can play an active role in providing flexibility for the electricity system. Some consumers are already willing to contribute to security of supply e.g. by steering devices according to price signals or by accepting restrictions in their electricity use during certain periods, naturally in return of a financial compensation. Thus, smart metering, appliances for demand response and local small scale production, in connection with enhanced pricing, products and services, are tools to be developed to attain more flexibility and better security of supply. This is also a very cost-efficient way to guarantee security of supply, as consumers can choose the product they want and thus give an indication on their high or low willingness to pay for supply security.

Large end-users typically already buy electricity on wholesale market prices. These consumers have a natural incentive to adjust their power consumption according to the prices. There is no need to introduce new standards when there are consumers willing to participate into the market with demand response and able to choose the standard they prefer.

Demand flexibility therefore gives both large and small end-consumers the possibility to choose and pay for their own preferred security of supply, the correct standard is found on the market and no central standard is necessary.

(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:

Generation adequacy must be measured against the level of system security in countries where this is decided upon legally or by regulators in each area. As such, a first action could be to develop European benchmarks on these system security requirements and requirements to cooperate with the neighboring countries in the assessment. Overall, we support that generation adequacy assessments should take into account cross border connections already now and thus become more regional than national. Through the coupling of day-ahead, intraday and balancing markets this contribution is becoming more reliable and should be fully acknowledged in the national assessments.

In a second step, TSOs should be required to look at the physical infrastructure of the grid and not at geographical borders. If enough capacity is between adjacent price areas their generation capacity should be assessed together.

a. National level

There are no reasons to differ between national, regional and the European level as cross border capacity needs to be taken into account.

b. Regional Level

There are no reasons to differ between national, regional and the European level as cross border capacity needs to be taken into account.

c. European Level

With regards to generation, generation adequacy assessments at European level should take into account possible capacity closures due to economic reasons and not only based on technical lifetime. It should also take into account the flexibility of resources, given the increased share of not schedulable RES resources.

In addition, the contribution from demand response resources should be more clearly included. With increasing demand response, the total generation capacity level will be a result of economic optimization by the market actors between the supply and demand-side resources.

(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?

Generation adequacy, preventing involuntary load shedding and recurring blackouts is a real time issue. More focus should hence be on the design and monitoring of the balancing markets. Any assessment should transparently show the amount of balancing reserves contracted by the TSOs, and on how these resources are used, and some trends for the future. In general flexibility can be provided by most power plants and the capacity structure is in principle a result of an economic optimisation.

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

It is necessary to have common rules and methodology for member states to do their assessments, to take into account the impact of the integrated market. The generation adequacy can be based on commercial market-based decisions, and the adequacy assessments should mainly serve as information and as pointing out possible market distortions that need to be removed. The assessments should be detailed and might also involve different scenarios.

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

The Electricity Security of Supply Directive (2005/89/EEC) contains many important elements and principles. However, the Directive predates the EU energy and climate package and it should be updated to take into account the present situation where the security of the whole electricity system is being seriously challenged by rapidly increasing, subsidy driven intermittent energy. Also, it should be assessed whether this Directive could provide a suitable legal framework for laying down common EU wide compatibility criteria/standards for the use of non-discriminatory capacity mechanism in certain cases of proven security of supply risk in one or several member states. However the first focus of the Commission should be the full implementation of the 3rd energy package, to reduce distortions in the electricity markets. Only afterwards the need for new legislation to address generation adequacy should be considered.

(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?

Swedenergy believes that risk assessment is a good tool to enhance the level of security of supply, but at the same time recognizes that the existing non-binding TYNDP performed by ENTSO-E already addresses the concept of security of supply (Regulation 714/2009). Instead of introducing new reports

it would therefore be preferable to build the risk assessment on the TYNDP, enhance the transparency in terms of regional planning and focus on the flexibility of the system and its ability to integrate intermittent resources.

The emphasis must be in improving market functioning, not in creating new mechanisms or administrative procedures. However, if capacity mechanism criteria are introduced, there should be an obligation for the country planning to implement a CRM to produce clear evidence on the justification of such mechanism and a risk assessment, which must take into account cross-border trade and availability of generation capacity and demand response in neighbouring countries, should be part of that.

(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?

There should be a standard requirement on member states and their energy regulators to decide a level of real time security of supply within an area. These standards should be based on common EU rules and methodology, include a cost benefit assessment and fully taken into account the possibility to import electricity and differences in generation mix.

The whole idea of the internal market is that security of supply can only be understood in a broader sense, i.e. regional or European, not in a national sense. Therefore no member state within an integrate market should have a reason to aim for 100 % self-sufficiency in all situations.

A pragmatic way forward is that member states start to cooperate at regional level arranging for coordinated monitoring / assessment and then gradually aim to harmonise adequacy standards.

The decided level may differ between member states but must be the same within a specific bidding area in which market actors are to balance their commitments.

Additionally, the EU's task could be to facilitate an exchange of experience and assist a gradual evolution towards a common assessment.

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

To enhance electricity markets' ability to deliver generation adequacy, governments and regulators must first of all allow energy-only markets to function properly. To this end, distortions which hinder the balance of demand and supply must be removed. Such distortions include regulated end-user prices, restrictions on plant operations, price caps, and other regulatory or administrative measures which unnecessarily hinder wholesale market outcomes.

Introducing capacity mechanisms should clearly be the last resort option after all necessary actions to improve market functioning have failed or proved to be insufficient to guarantee security of supply in the given member state. A detailed justification should be required from the member state planning to introduce a CRM, and this justification should be done prior to implementing any measures. Member state introducing a CRM should describe clearly what kind of actions have been done and why these actions have not been sufficient, especially why it has not been possible to rely on cross-border electricity import or demand response methods. Consistency with the process of EU market integration should be ensured and the CRM should have a sunset clause.

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

a. to ensure that new flexible resources are delivered?

The energy and balancing market should be able to deliver the necessary price signals for flexibility if authorities do not intervene in the market and accept price signals such as price spikes and price volatility. There is not necessarily a need for addressing new flexible resources. There is sufficient flexibility in the system (pump storage, Demand Side Management, existing generation fleet, etc.) which is remunerated by spot, intra-day and ancillary services markets.

In times of scarcity, flexible demand is necessary to clear the market and there establish the market clearing price which will be a result of what the consumers are willing to pay for electricity in that particular moment. This ingredient is very important as these scarcity rents collected in such situations will be important for the profitability in plants used very few hours.

In most European power markets there is presently enough generation capacity, as well as emerging demand response, to provide adequate flexibility, together with existing and widening interconnections.

Possible capacity mechanisms should address only the security of supply, as including other targets would easily lead to premature closures of existing market-based firm generation capacity. Power system flexibility should be provided through free market-based pricing (including market coupling) in the day-ahead and intraday and balancing markets, as well as through adequate balancing reserves contracted by the TSO with market based remuneration. If these prerequisites are established, new flexible resources will emerge both from the supply and demand when needed by the market.

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

In competitive power markets the peak-load balance can always be reached through the matching of price dependent supply and demand bids. This

assumes as mentioned in the previous questions that current regulation that prevents price signals from functioning such as price caps is removed, that market integration in the day ahead, intraday and balancing timeframe progresses and that other red tape preventing investment in generation and grid capacity is removed.

However, to ensure adequate supply at peak times it is most important to improve demand side flexibility. Swedenergy considers demand response very important for establishing well-functioning markets. Ideally, demand participation should be so developed and a natural part of the wholesale market that no extra contracted resources in times of high system stress would be needed. In case the system is under pressure this should be reflected in the market prices: if the price is sufficiently high, some consumers will choose not to consume electricity, because that is economically rational from their perspective. Unfortunately, the potential of demand flexibility is not fully used yet, so measures should be taken to improve it.

With adequate demand side flexibility (also from other markets through market coupling) demand side bids will ultimately ensure that day ahead and intraday markets can always clear without any need for curtailments and threats for supply security. After the intraday market gate closure, the TSOs guarantee the supply-demand balance during the operational hour by the balancing reserves that should be contracted at the latest before the day-ahead market gate closure.

(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?

Ideally, incentives for phasing out from carbon intensive generation should be provided by the market, driven by CO₂ reduction policy and market based emissions trading. Similarly, this policy should provide adequate incentives for investments in new low-carbon generation, including balancing and reserve capacity.

However, the Nordic practice shows that a strategic reserve can serve as pragmatic instrument for a transition period as it easily can be abolished and there is limited disturbance of the internal market as long as it is used in exceptional situations only. Strategic reserves should also be outside the normal market to minimise the market distortions, and the capacity selection should be based on open competition. Strategic reserves should be used only for preventing market failures, i.e. only after all other resources in the market are used, and they should not create any price ceilings for the market or reduce demand flexibility. Price caps are not needed but if technical price ceilings anyway exist, these should be at high enough level. Also with technical price ceilings a common EU approach is needed. Different national or regional approaches can have negative impact on incentives for infrastructure development, market coupling and demand response development. In

particular, the design of the strategic reserves in the Nordic countries could be further harmonised and improved. The Nordic TSOs should be encouraged to cooperate and develop in the first step harmonized and later common solutions.

To conclude, a strategic reserve is not an appropriate tool to steer targeted new investments for a low carbon generation. Strategic reserve may serve as insurance in disruptive periods with high uncertainties.

If the phase out negatively affects the underlying capability of the transmission grid it should instead be relieved by grid investments addressing the grid problem separately.

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?

As long as the strategic reserve is procured in a market based manner by the TSO, controlled by the TSO and used only as a last resort in real time to help supply meet demand, the interference with competition and price signals on the wholesale markets can be minimized. Interference with long term investment signals can be equally reduced by preventing inference with wholesale prices.. To ensure that normal market pricing dynamics are allowed to work, any strategic reserve should preferably be priced at the Value Of Lost Load (VOLL) alternatively at the technical max price used at power market exchanges. This technical max price should be considerably higher than normal scarcity prices to ensure that no competitive adjustments are crowded out. In addition, the strategic reserve should be kept as small as possible.

There is however, always a risk that strategic reserves might be used for political targets such as to keep wholesale price low, i.e. the strategic reserve is activated at a very early stage. This would hinder price signals, distort and negatively affect the respective coupled markets. That risk should be prevented through very clear regulation concerning the sizing and the use of these reserves.

(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?

If capacity mechanisms are implemented, they should be clearly targeted towards solving the security of supply problem. Capacity mechanisms should not be used for solving other policy objectives or provide additional revenue streams to some generation or demand-response capacities and they should treat all capacity and participants similarly. Key criteria/principles of any capacity mechanisms should be harmonised at the EU level. In principle, capacity markets and payments always cause distortions in the power market

because of their regulated nature, as they have an impact on the electricity wholesale prices, crowding out existing unsubsidized capacity and preventing investment in new unsubsidized capacity.

In addition there is a risk that CRMs might lead to surplus capacity, and by that can cause excessive costs to consumers as the cost of the subsidy is passed on via the electricity bill or grid charges, and suppress dynamic market-based demand response as pure power prices can be kept artificially low. Targeted capacity mechanisms on only some generation forms can in addition lead to premature closures of other generation and have a distortive effect on competition.

While we therefore think, that CRMs are not the solution and always have a negative impact on the market, there are ways to design them which would reduce their negative impact:

Capacity markets are better than administratively set capacity payments, as they allow for at least some market based price signals to work. Administratively set capacity payments always risk being set too high or too low, are less flexible in reacting to changes and are much more prone to political tinkering and adjustment. Capacity markets theoretically would allow the price to go to zero, when enough capacity is build/demand flexibility comes into the market, so the risk for oversubsidizing is reduced.

Any capacity market that discriminate between different technologies, different type of companies, existing or new built and between generation, demand response or storage would be distortive to competition. The mechanism should treat demand and supply equally irrespective of technology as long as certain functional criteria are met.

The capacity market should be forward looking. They should rely on an analysis of future system needs performed by TSOs in order to ensure that enough capacity is kept in operation and built on time to ensure security of supply while avoid at the same time inducing overcapacities. These analyses should ideally be performed in a coordinated way at European level in order to reveal the level of need in every country while taking into consideration the existing interactions between markets.

Capacity markets should be coordinated at least on a regional if not European level. Otherwise there is a huge risk that to the integrated electricity market, to competition for investment between countries, for free riding behavior and other negative consequences.

The capacity market should have a sunset clause, a clear targets and clear revision dates, where their impact is studied and where they can be abolished if they have achieved the targeted level of supply security.

In aiming at securing generation adequacy, a strategic reserve with a proper design, is most likely to have a limited impact on the functioning of the market.

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 should be ensured through equal market-based participation for both supply and demand in the day-ahead, intraday and balancing markets, as well as in balancing reserves, and not by capacity markets.

As mentioned above, possible capacity markets should serve only security of supply, as flexibility can be adequately rewarded through the energy price volatility and the balancing markets and reserves payments.

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

Models like capacity markets or capacity payments that reward all or almost all capacity are very difficult to reverse, as they have a strong impact on wholesale market pricing and on investment being based on price signals.

Strategic reserves are easier to build down, as ideally they come into the wholesale market only in extreme situations and don't reward all capacity at all times. However, the design of the strategic reserve is important as mentioned in the questions above. Generally it should be tried to use the reserve only in extreme situations where there is no real time cross between supply and demand, the reserve should be purchased efficiently and the reserve capacity should be set as low as possible.

Although CRM are meant to ensure generation adequacy, they are also one additional factor worsening the general investment climate even before their introduction. Discussions concerning capacity markets and payments cause regulatory uncertainty for market actors, making investment decisions for new capacity more difficult.

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

Capacity markets with as few parameters as possible leaving as much room for the market as possible will create fewer costs compared to models with numerous targets and administratively set parameters or capacity payments. In assessing the total costs for end consumers, not only the very short-term but also the long-term effects should be taken into account. All capacity mechanisms increase costs for final consumers as they reduce market efficiency. Least impacts would be caused by market-based systems with non-discriminatory participation and a regional dimension instead of national systems. Transitional mechanisms, like limited strategic reserves, can also keep the consumer costs lower than full-scale capacity mechanisms.

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

Capacity mechanisms as such should not be introduced for encouraging flexibility. The existing balancing markets, with the on-going European balancing market integration, should instead be used and developed so that adequate balancing reserves are contracted by the TSOs (taking also into account the increasing balancing needs due to the growth of wind and solar generation) and that the balancing energy market is based on marginal pricing and free participation from both supply and demand resources, which will encourage increased flexibility based on the market needs. In addition, all generators including RES should be balancing responsible parties to set the correct incentives to be in balance.

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

No! The EU should define clear compatibility criteria for the use of capacity mechanisms, if their introduction can't be prevented, but there is no need to establish a European-wide capacity mechanism. But a blueprint for how local or regional capacity mechanisms can be designed to minimize adverse effects on the market and trade could be useful.

(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, such criteria should definitely be developed. Capacity mechanism development is clearly a European issue because it will potentially lead to negative impacts on the present energy only market design and on international competition, on which the whole internal market legislation is based.

ACER and the European Commission (in cooperation with all relevant EU and national stakeholders) should develop a set of minimum EU harmonization requirements. This should ensure the well-functioning of regional energy markets and compatibility under the framework of the Internal Electricity Market. In addition, developments in national markets should be closely monitored to prevent CRM, as well as other security-driven mechanisms, to distort the internal energy market and its competitive dynamics. Therefore criteria should be agreed in order both to identify and quantify the created distortions coming from lack of CRM harmonization as well as to facilitate MS cooperation in these issues and to prevent the emergence of nationalistic industrial policies.

The EU Commission is the "owner" of the internal energy market project and it should take the lead in the process of establishing a clear and effective framework for the use and non-use of capacity mechanisms, including exit criteria. Implementation of a national capacity mechanism should be conditional on prior notification and approval of the European Commission.

The criteria should require at least

- a clear evidence based justification for the implementation of a capacity mechanism,
- time-limited application including a regular assessment of the situation and whether the conditions for capacity mechanism are still justified, and
- a clear phasing-out plan including setting the conditions when the capacity mechanism can no longer be justified.
- Criteria to define the distortions to the internal energy market and competition

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

a. Should any criteria be added to this list?

Regulators should have the task to decide on a desired and acceptable level of real time security of supply including a cost benefit analysis. The generation adequacy assessment could serve this purpose. This requirement would decrease the danger of an introduction of a CRM when it is not needed or the possibility for over contracting and building up overcapacity.

However, Swedenergy would like to underline, that we are in general skeptical to CRMs and consider that at most a strategic reserve could be needed in a transition period to ensure supply security.

See below for comments on the list of criteria.

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

The most important criteria is that the mechanism must not affect or distort the market price.

Potential detailed criteria to apply to capacity mechanisms

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) European integration of day-ahead, intraday and balancing markets (incl. balancing reserves)

Additional bullet, market integration can make the introduction of a CRM unnecessary.

ii) increased interconnection and in particular the completion of identified projects of Common interest.

Yes. However, increased interconnection capacity has to be combined with increased transmission and distribution capacity within each bidding zone..

iii) steps to encourage effective competition by addressing the position of dominant undertakings.

Swedenergy considers that capacity mechanisms or strategic reserves should not address competition targets. Only the security of supply target should be achieved. By putting too many different targets into one instrument the instrument becomes less efficient. Effective competition and market integrity should be ensured by existing regulation and legislation including REMIT.

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

In general it is possible to look for less distortionary measures to be taken before introducing capacity mechanisms. However there should be a clear distinction between the measures mentioned concerning demand: energy efficiency or reduction of electricity demand and demand flexibility.

Demand flexibility reduces the demand in peak time and such reduces the threat to supply security when the system is stressed and has a direct effect. Energy efficiency and reduction of electricity demand are long term solutions and might reduce the need for investment in new generation capacity in general. In general investors in generation capacity need a stable political environment to assess the results of potential energy efficiency, reduction of demand or demand flexibility policies in order to make good investment decisions. Political uncertainty delays and even prevents investment in future generation.

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

Yes. Participation of demand is fundamental for an electricity market to function properly. To enable end consumers to participate in the electricity market, prices need to be fully liberalized.

d) establishment of balancing markets and adequate balancing reserves contracted by the TSO

Additional bullet, to increase the pressure on TSOs to integrate their balancing markets

e) functioning intraday market established

Additional bullet. Allowing generation and demand to trade themselves into balance in real time and react for example to volatile wind reduces the need for balancing reserves.

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.

Yes. A Capacity Market should be considered as an addition to the Energy Only Market reassuring public authorities and grid operators that enough capacity is available for grid stability and RES back-up. However, Swedenergy would like to have more explanation on how the effectiveness of the capacity mechanism will be assessed, and would also like to include the cost of capacity mechanisms for end consumers in the list

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.

Yes. This could be achieved by having a common capacity markets for several bidding zones. If the capacity mechanism would be organised as a regional market, there could be auctions per bidding zone according to the same principles as market coupling. In case there are no congestions in the auction there will be a common capacity price, but it would result in a higher price in bidding zones with more scarcity in case of congestions in the same way as in market coupling in the day-ahead market. It should not be possible to sell more capacity from a neighbouring market to the market with a capacity mechanism than the available cross-border capacity, the same rules should apply for sellers from all the bidding zones.

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).

Yes it is important that cross-border competition is ensured. See also comments under the previous requirement number 4.

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

Yes it is important that day-ahead and intra-day markets are not disturbed.

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

However, a national capacity mechanism will automatically distort investment signals by attracting investments in that particular country, unless it is regionally harmonized with neighbouring countries.

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

See iii) above.

b) distorting dynamic incentives/crowding out;

Yes

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

Yes, demand response to price signal should be promoted and demand flexibility should be developed prior to going into any CRMs

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

Preferably the term "demand response" should be used rather than "demand reduction" in order to reflect better the reality (i.e.: demand is responding to price signals like generators).

c) creating market power or exclusionary practices;

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

The EU target being a European integrated market, the position of a player in a local market should not be relevant. Moreover, if implemented, a capacity market should be on a level playing field for all actors and without competitive distortions. Swedenergy considers that with one instrument, only one target should be achieved. By putting too many different targets into one instrument the instrument becomes less efficient. Effective competition and market integrity should be ensured by existing regulation and legislation including REMIT.

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

If implemented, a capacity market should be on a level playing field for all actors and without competitive distortions.

6) To be non-discriminatory a capacity mechanisms should

a) be allocated after an open competitive bidding process.

Yes, the capacity price should be determined in a competitive way (e.g. auction, traded certificates).

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

As stated under question 20, 1,b) there should be a clear difference between energy efficiency or electricity demand reduction and demand response or demand flexibility.

Energy efficiency is an important driver for a sustainable energy system. They have nothing to do however with electricity markets or capacity mechanisms as you can't bid in a permanent demand reduction (for example the closure of a plant) or more energy efficiency (a plant using permanently less energy). Abuse of capacity mechanisms to remunerate energy efficiency or reach energy efficiency targets should be avoided.

While energy efficiency and demand reduction is a "permanent" elimination of energy need, demand side response or demand flexibility is a "short term" reaction, and needs to be clearly distinguished. Demand side response or demand flexibility can be bid in the electricity markets and the inclusion of these demand side resources into the electricity markets should clearly be a target. If a CRM is introduced it should introduce no negative incentives for demand side participation in the electricity markets. That said there should be no discrimination between comparable resources, in case a CRM is introduced

i.e. a plant offering to use 100 MW less for a week should be treated the same as a power producer offering to produce 100 MW more.

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).

There should be no discrimination between capacities. Swedenergy considers that with one instrument, only one target should be achieved. By putting too many different targets into one instrument the instrument becomes less efficient. Carbon emissions should be incentivized by emission trading and flexibility should be incentivized by energy and regulation power markets. Existing units should not be discriminated and there should as well be no discrimination between different market participants.

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.

A capacity mechanism must aim for the most cost effective solution for the whole power system. However, the cost of a capacity mechanism depends on how the parameters (reserve margin, strike price, ..) have been set. Therefore those parameters will have to be defined on a regional/European level (see point 4 on cross-border capacity coupling).

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

A well implemented capacity market, respecting free market rules in an environment based on a level playing field for all actors, reduces the risk for overcompensation. It is therefore important to involve electricity consumers as well as cross-border generation assets.

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.

However, customers should in the first place participate in the securing energy supply via demand side response in the electricity markets, which

might make the introduction of a CRM unnecessary in the first place. Therefore a well-designed capacity mechanism should avoid "overcompensation" for generators as well as "double discount" for customers.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Kjell Jansson', with a stylized, flowing script.

Kjell Jansson,
CEO Swedenergy