



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

Finnish Energy Industries is power and district heating sectors' association for industrial policy and labour market policy operating in Finland, in the Nordic Countries and in the EU. We appreciate the opportunity to express our views on the European Commission Consultation Paper on generation adequacy, capacity mechanisms and the internal market in electricity.

GENERAL COMMENTS

The question of Security of Supply and generation adequacy has arisen partly due to politically driven subsidies which affect market prices and the profitability of investments. It is also partly due to the price regulation, which weakens the effect of demand response. There is an urgent need to conduct a thorough analysis how these politically determined drivers induce present capacity worries. The analysis should be done or facilitated by the Commission.

The question is also partly over-emphasized because of the national points of view. Individual member states consider generation adequacy from national perspectives purely. This conflicts the idea of common European internal electricity market and is very cost-inefficient. National solutions easily discriminate competition as they are typically based on supporting generators in the very specific country. National solutions are against the idea of European Union, where member states depend on each other's resources and benefit from the common market. Ensuring that each and every member state has enough domestic generation resources for every possible scenario would lead to huge over-capacity in the power market.

CONSULTATION QUESTIONS

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

Yes and No. In a well-functioning market the investments are based on the expected revenues and hence the current market prices and expected future market prices. If market prices are low, it generally speaking indicates that there is at present no need for additional new investments.

However, in the current market structure this statement is only partly true. Different market interventions have caused a situation, where price regulation leads to higher power demand than the market prices would induce and subsidies cause investments into false locations and wrong type of generation (generation for which there is no need in the market, but which is driven by political will and subsidies). The subsidies generate investments into generation that the market don't need. Price regulation makes this even worse by pushing prices too low for the generation forms that would be needed. The market should be let to work, hence allowing price fluctuation.

Further, protectionist market interventions by member states further diminish the profitability of the needed investments. If the cross-border transmission of electricity is restricted, there will be a smaller slice of which the necessary income is to be collected. Decisions taken by

individual member states affect the profitability of investments to be made in other member states.

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?

Yes. Subsidies for specific energy sources do undermine the role of the market price as an incentive and a basis for new investments. The format of the support scheme and the share of supported generation of the total market strongly affect how severely support schemes 1) undermine investments needed to ensure generation adequacy and 2) increase need for these investments.

A properly designed support scheme eases the research and development and/or the market entry of new forms of technology while keeping the distorting effects to the market minimal. They are relatively cost-efficient and provisional. As the share of subsidy-based generation increases, the negative effects are emphasized. Subsidies obviously encourage investments in subsidized generation and by filling the market with subsidized generation, discourage investments in other forms of generation and undermine the role of the market prices. Some support forms, like priority dispatch and full feed-in tariffs prevent the supported generators from reacting to short-term market prices, which can result in both surplus and deficit situations endangering the power system stability.

All support for specific energy sources should be gradually phased out. As the first step existing subsidies should be formatted so, that all generation forms are exposed to market prices and hence receive market signals. Possible subsidies for new generation need to be designed so that the market prices maintain their role in the investment decision. As the amount of this new generation increases and its investments costs diminish, the subsidies should be phased out. Preferably ETS should be let work as the only support mechanism.

If a significant share of generation investments is based on support, it will distort the competition in the market. This leads into situation, where investments are driven into supported generation forms, and distort the profitability of generation forms that the market would need. This is the situation in the current market where it seems that there is oversupply of intermittent electricity generation and deficit of adjustable generation forms.

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. The market integration in all timeframes considerably improves security of supply, as resources from the whole common market area are directly used to cover sudden deficit in other areas. Nordic power market is a good example of a well-functioning cross-border regional power market. The power flows freely from surplus areas to deficit areas, and hence ensures the Security of Supply in the deficit areas.

Physical cross-border capacities as well as commercial restrictions (such as physical forward contracts) still continue to restrict cross-border flows, and further grid investments are thus needed, as well as the development of smart metering to fully utilize the demand response resources in the whole European market. In the internal market security of supply should be considered in regional terms rather than from a point of view of one country only.

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?

The investments are based on the expected profits. It must be recognized, that the prices may fluctuate over time. The value of electricity is different in summer and in winter, during the day and night, whether it is traded on long-term, Day-ahead or Intraday market and depending on how fast the generator (or demand) have to respond to the market situation.

These differences must let to be visible for generators and consumers, in order give them incentives to react to them.

European Commission should clearly support market-based mechanisms, including more market based RES subsidies, equal level-playing field for all generation and demand response resources. The development of cross-border grid infrastructure and full market integration should be strongly promoted. Generation adequacy should always be assessed in broader terms than from a point of view of one country only. It must be assessed from a European perspective. National or autarchic views, ignoring the fact that national markets are part of a larger EU market, will by definition overestimate generation adequacy concerns.

As for the possible capacity mechanisms, member states should provide clear arguments and proof of the need for such a measure and the Commission should make also its own assessment on the situation, also taking into account, whether the needed SoS would be secured with resources available in other Member States. There should be a set of common EU criteria both for assessing the need for CRMs (capacity remuneration mechanisms) and for the design of such mechanisms to ensure that mechanisms don't affect negatively to other Member States and that they are not used for protecting the national companies.

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

Making the internal market work (infrastructure development, market coupling, regional cooperation etc.) is to the large extent a question of political will and commitment. Power generation is today burdened with many additional costs, like national taxes and regulatory costs, which should be minimised.

Smart meters, enabling wider demand response, should be introduced in all Member States. Regulated prices and price caps should be removed. RES subsidy schemes should be developed so that they better reflect the market price i.e. they should be more market based and all production forms should be exposed to market prices.

The need for existing capacity remuneration mechanisms should be evaluated, as uncoordinated implementation of capacity mechanisms can distort markets and endanger generation adequacy for neighboring Member States. Speeding up the permission process for both generation and transmission would also be beneficial for generation adequacy.

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?

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 generation adequacy.

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 lower standards when there are willing consumers to participate into the market with demand response.

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 should not be measured according to geographical borders but rather follow the electrical infrastructure. Generation adequacy should take into account cross border

connections and thus is more regional than national. Through the coupling of day-ahead, intraday and balancing markets this contribution is becoming more reliable.

a. National level

Yes. National adequacy assessments should fully take into account the contribution from cross-border resources, not only from the neighboring countries but from the whole European market. Through the coupling of day-ahead, intraday and balancing markets this contribution is becoming much more reliable and should thus be fully acknowledged also in national generation adequacy assessments.

b. Regional Level

Yes. Regional assessments should similarly fully include the contributions from the other regions through market coupling.

c. European Level

Yes. Generation adequacy assessments at European level should take into account the possible capacity closures also due to economic reasons and not only be based on technical lifetime. On the other hand, 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?

Not on general flexible capacity, as flexibility can be provided by most power plants and the capacity structure is in principle a result of an economic optimisation. More transparency is however needed on how much balancing reserves are contracted by the TSOs and on how these resources are used.

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

The present level is enough. However, it would be necessary to have common rules and methodology for member states how to do their assessments, for instance import possibilities from neighboring countries should be taken into account.

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

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.

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?

No. The existing non-binding TYNDP performed by ENTSO-E, already embeds the concept of security of supply (Regulation 714/2009). Instead of new regulation, it would be preferable to

enhance the transparency of the TYNDP in terms of regional planning and focus on the flexibility of the system and its ability to integrate intermittent resources.

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

No, there is no need to harmonize generation adequate standards across the EU. In assessment of generation adequacy, it is important that cross-border trades are taken into account. The idea of the internal market is that security of supply can be understood in a broader sense, i.e. electricity market area, not only a national security of supply.

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

Yes. 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. In markets where all the improvements have been made and generation adequacy is nevertheless endangered (through reduced investments and early decommissioning), policymakers may consider introducing a capacity remuneration mechanism – ideally at a regional level or at least in coordination with neighboring markets. In any case, consistency with the process of EU market integration should be ensured. The possible mechanism must be designed so, that its effects on the market are minimised.

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

a. to ensure that new flexible resources are delivered?

No. Today there is enough generation capacity, as well as emerging demand response, to provide adequate flexibility, together with existing and widening interconnections in Europe. Power system flexibility should be provided through free market-based pricing (including market coupling) in the day-ahead and intraday markets, as well as through adequate balancing reserves contracted by the TSO, and market-based balancing energy prices. Incentivizing new flexible resources could additionally weaken the business case for existing flexibility which already suffers from the strongly reduced price peaks as a result of increased renewable capacity which is supported by different mechanisms (e.g. feed-in tariffs).

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

The energy-only markets must be allowed to function properly by removing distortions which hinder the demand and supply balance (see question 12). At the same time, integration of wholesale markets must remain a top priority. Also, RES generators must be incentivized to progressively enter into the market on a level playing field with all other generators. Finally, enabling market-based demand to participate in wholesale market spot price formation is fundamental for a well-functioning electricity market, although difficult to achieve. In markets where all the above improvements have been made and generation adequacy is nevertheless endangered (through reduced investments and early decommissioning), policymakers may consider the need of introducing a capacity remuneration mechanism (e.g. strategic reserves) ideally at a regional level or at least in coordination with neighboring markets.

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?

Yes, a strategic reserve is a pragmatic instrument for a transition period. The strategic reserves should be outside the normal market to minimize 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. The need for existing strategic reserves should be assessed regularly.

As an example, in the Finnish power system there is a strategic reserve which ensures security of supply when the market based electricity procurement is not sufficient to cover the anticipated peak load. The strategic reserve can consist of both power plants and facilities capable of demand response of electricity. Power plant reserves are power plants, which are reserved fully for use by the peak load capacity arrangement. In other words, these plants cannot participate in the commercial market due to the rules of the arrangement. The peak load capacity in Finland has been contracted for a certain period (from 2 to 4 years).

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?

Risks with strategic reserves are limited. The main risk for effective competition is if strategic reserves will be taken into use already before the price ceiling has been reached. Peak prices should be allowed to occur in order to allow market based generation capacity to recover their costs and to motivate demand response resources activation. It should also be taken into account that if strategic reserves are too big, there is a risk that generation that would otherwise operate in the market is taken away and needed for the strategic reserve. Thus ideally only plants that would otherwise have been taken out of operation, are contracted as strategic reserve.

15. In relation to capacity markets and/or payments:

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

If capacity mechanisms are implemented, they should be clearly targeted towards solving the security of supply problem, hence to ensure that there is sufficiently capacity to cover the demand in all market situations. In a well-functioning power market the prices are high, when there is scarcity of generation resources and the prices function as a signal for consumers to cut down electricity usage (prices generate demand response). Capacity mechanisms should not be used for solving other policy objectives like preferring flexibility or RES-basis. Key criteria/principles of any capacity mechanisms should be harmonized at the EU level and they should preferably be of regional character. In principle, capacity markets and payments always cause distortions in the power market because of their regulated nature and especially if they are designed from a national point of view.

Strategic reserve is a kind of insurance for power markets. If the market doesn't find an equilibrium (extreme situations, when demand exceeds supply), the reserves can be used. As being outside the market, they have only a very small effect on market dynamics.

For wider capacity mechanisms, the payments can easily cause excessive costs to consumers, while capacity markets can lead to surplus capacity and suppress dynamic market-based demand response. With targeted capacity mechanisms on only some generation forms there is always a risk that the capacity supported is eventually not the type capacity for which there is need in the market. Further it can lead to premature closures of other generation. With non-discriminatory coverage and free pricing (enabling capacity prices to go to zero with increasing demand response), the distortions can be kept lowest.

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 can be understood in many ways. There is flexible production that can be started very fast and is typically bidding in the balancing market. There is also flexible production that can be rather easily scaled up and down knowing the production pattern well beforehand. It may be tempting to find measures how to encourage one-type of flexible generation. However this should be left to market. Flexibility can best be ensured through equal market-based

participation for both all supply and demand in the day-ahead, intraday and balancing markets, as well as in balancing reserves.

The ETS, when allowed to function properly (i.e. without overlapping steering mechanism), takes care of the emissions. Possible capacity mechanisms should serve only security of supply, as flexibility can be adequately rewarded through the energy price volatility and the balancing reserve payments. Possible capacity mechanisms should thus allow free market-based pricing in the day-ahead, intraday and balancing markets without any price caps. For strategic reserves, a requirement of balancing market capability during operation can be one feature in enhancing flexibility for extreme situations.

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

Capacity markets and payments always cause regulatory uncertainty for market actors, distorting decision-making already during discussions about possible mechanisms. With a clearly defined time period and with the possibility of the prices/payments going to zero, the phase-out of capacity mechanisms can be best enabled. Strategic reserves can be phased out more easily than other mechanisms, as strategic reserves do not have impacts on the normal market operation and as generation units contracted as strategic reserve would otherwise typically have been closed down and can thus be retired when the strategic reserve is phased out.

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

All capacity mechanisms increase costs for final consumers as they reduce market efficiency and increase system costs. Least impacts would be caused by market-based systems with non-discriminatory participation and a regional dimension instead of national systems. Transitional mechanisms, that ensure some excess capacity in extreme situation, 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?

The balancing markets should be let to price the balancing resources according to how they are needed. If there is a lot of need for capacity that can react fast, that should affect the balancing prices and hence give investment signals. The existing balancing mechanisms, with the on-going European balancing market integration, should 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. Capacity mechanisms as such should not be introduced for encouraging flexibility.

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 but there is no need to establish a European-wide capacity mechanism. The criteria should include under what terms a member state may introduce a capacity support mechanism, among other things taking into account available cross-border resources. The criteria should also include description of allowed capacity mechanisms and criteria to prevent the capacity mechanism to affect internal market. These criteria may and should be allowed to cause additional costs to a member state that introduces a capacity mechanism (e.g. similar capacity payment to imported electricity as for local generators).

The priority should be in completing the internal energy market, including technical market rules, market coupling and infrastructure development and making the energy only market model (with adequate balancing reserves) deliver.

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 affect market actors in the common market area. They further potentially lead to irreversible change in the present energy only market design, on which the whole internal market legislation is based. The EU Commission as the "owner" of the internal energy market project 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) a clear evidence based justification for the implementation of a capacity mechanism, b) time-limited application including a regular assessment of the situation and whether the conditions for capacity mechanism are still justified, c) clear phasing-out plan including setting the conditions when the capacity mechanism can no longer be justified d) what are the impacts on the electricity market and e) how effects to functioning of common electricity market will be minimised.

20. Do you consider the detailed criteria set out above (p. 12 - 14) to be appropriate?

a. Should any criteria be added to this list?

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

For criteria (1) a new sub point should be added to point a. and two additional other points should be added:

a.

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

d. adequate balancing reserves contracted by the TSO

e. functioning intraday market established

Energy-efficiency and related solutions enabling demand side participation into the market (criteria 1b. and 6b) are important for reducing energy demand and enabling the market to find equilibrium. However energy-efficiency solutions are not possible to be included as capacity resources, as they are not resources that are bid in the electricity markets.

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