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

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Executive summary

The Council of European Energy Regulators (CEER) welcomes the opportunity to comment on the Consultation Paper from the European Commission on delivering a more coordinated approach to generation adequacy and security of supply in the Internal Electricity Market (IEM) and ensuring that any state interventions in this regard are well designed and effective. The consultation as well as the Communication "Making the internal energy market work" raises very important issues related to generation adequacy, capacity mechanisms and the IEM, which may influence future developments in European electricity systems.

The key objective of market integration is the development of a single competitive market that delivers a sufficient level of security of supply. From a regulatory perspective, it is of utmost priority to address the issue of generation adequacy and security of supply in a coherent and systematic way, taking into account all relevant impacts and dependencies.

CEER acknowledges that recent developments towards the achievement of the IEM have already delivered and will continue to deliver significant benefits, leading to more competitive, liquid and transparent wholesale markets while safeguarding electricity supplies to end-consumers, especially in periods of high demand or low feed-in of renewable generation.

With a growing amount of variable renewable generation – mainly from wind and solar units - to deliver electricity, transmission system operators expect that new requirements and major operational changes will be necessary in order to balance power systems at all times in a cost-effective way, notably during maximum and minimum demand scenarios or in response to unexpected outages.

While encouraging the current initiatives that contribute to building the internal market, CEER also observes that the effectiveness of an energy-only market design for delivering relevant investment signals is being questioned and new arrangements (such as capacity mechanisms) are being considered by some Member States to ensure resource adequacy and/or operational reliability.

In this context, we reaffirm that best efforts should be made to ensure a fast implementation of the European target models for the electricity and gas markets. This will enhance the IEM by stimulating an efficient cross-border use of current flexible generation facilities and increase the incentives for new investments, e.g. day-ahead and intraday market coupling, cross-border allocation and re-dispatch, flow-based capacity calculation, on the basis of relevant bidding zones.

From a theoretical point of view, all generation adequacy analyses should take in to account the benefits of the IEM. The use of interconnectors and harmonised probabilistic analysis may deliver an increased insight into generation adequacy levels. Whilst generation adequacy is a responsibility for Member States, harmonising analyses and exchanging results can be beneficial. In the meantime, additional efforts towards removing existing barriers (e.g. price caps, regulated end-user prices, absence of a level playing field for all generation technologies) are essential for ensuring that energy markets can function properly.

A systematic and careful assessment of the benefits and impacts should be elaborated when envisaging new market design policies to cope with current market inefficiencies. New market design policies could be envisaged when significant distortions remain and an assessment suggests that alternative market design policies (such as implementing capacity remuneration mechanisms, CRMs) could solve the identified problem in an efficient and IEM-compatible manner at both national and cross-border level.

Where capacity mechanisms are considered in Europe, CEER agrees that cross-border effects (e.g. cross-border flows, prices, investments, etc.) should be assessed in order to understand the consequences on the internal market. From all the different types of CRMs, ideally the least distortive ones should be applied, provided that they satisfy their intended objectives and are compatible with the IEM. CEER is concerned that, so far, coordination between neighbouring system operators in defining the rules of such mechanisms may not prove sufficient to ensure full compatibility of market arrangements with the objectives pursued by the achievement of the IEM. These concerns have led to the establishment of an ACER/CEER Workstream with the objective of carefully assessing the impacts of capacity mechanisms on market integration and providing appropriate recommendations. CEER would be happy to discuss its concerns and proposals with the European Commission.

Meanwhile, we encourage the improvement of current generation adequacy and risk assessments at both national and European levels. These assessments should not only ensure more transparency but also address the need for flexible capacity, taking into account the dynamic behaviour of intermittent generation.

1 Market developments

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

Assessing the appropriateness of the current market design is a delicate task. This can be seen from the lengthy and sometimes controversial discussions on-going in many EU Member States. Initial discussions between Member States show that the challenges and therefore the needs may differ depending on the diverse overall designs of national electricity markets.

Investments in new generation capacities are long-term decisions and depend on a wide range of different price expectations. For conventional power plants these expectations concern primarily future electricity, fuel and carbon prices on spot and derivative markets, as well as remunerations for ancillary services. The functioning and liquidity of fuel carbon and ancillary service markets therefore must not be excluded from consideration.

As mentioned above, generators have different opportunities to market their generation units. They can decide to either (i) sell their energy in the long-term derivative market and stabilise their income by hedging their price risk, (ii) sell their energy on the short-term spot market with more volatile prices, or (iii) offer their capacity to the TSO for ancillary services. These different marketing opportunities allow generators to diminish their investment risk to a certain degree. However, electricity prices in some spot markets have decreased to a low level due to, for example, an increasing share of renewable energy sources (RES) operating with very low marginal costs, lower carbon prices and fuel price differentials. Newly built conventional power plants as well as and certain already existing generation units may therefore have difficulties earning sufficient revenue to cover their fixed costs.

As prices in derivate markets depict future price expectations and are highly influenced by current spot market prices, it might be the case that this low price level impacts on the derivative market with the consequence that derivative markets also do not allow some generators to earn their full cost. This situation is currently exacerbated by the high level of gas prices which lower the marginal return for gas fuelled power plants and make their construction even less attractive. On the other hand, it should be noted that this situation can ease once gas prices start to decrease again. Another aspect which influences especially the investment decision in new generation capacities is the level and volatility of spot market prices, which affect all generation technologies on the basis of their load factors. This is particularly true for extreme peak-load units[1] since they have to recoup their capital cost during relatively few high-price hours in the spot market. As electricity markets with a higher share of intermittent renewable generation tend to generate more volatile and less predictable price spikes in the spot market, the current political will to increase the share of renewable generation in the IEM could negatively influence investments in peak generation units due to an increased investment risk.

[1] The term “extreme peak load units” refers to generation units which mainly operate for a few hundred hours per year and therefore are usually not marketed via long-term contracts on the derivative market.

In such a situation, competition authorities in particular will face a challenging task to differentiate between the exercise of market power and "real" scarcity prices. The investors described above, on their part, face a certain risk of political intervention in order to limit high electricity prices. Even if investors could rely on the robustness of peak prices, the amount of investments undertaken may not be sufficient to induce the required level of generation capacity because due to the merit-order dispatch, new investments in generation reduce the overall amount of high-price peak hours. This, in turn, may diminish the incentive to invest.

Investment risk in energy-only markets[2] overall increases substantially under rising uncertainty around long-term price developments for electricity, fuels and carbon.

The profound transformation of the energy mix envisaged in EU Member States and the prices of input factors for electricity generation therefore have a major impact on investment decisions in the IEM.

Taking into account the aspects mentioned above, CEER considers it possible that current (and future) wholesale electricity market prices may not stimulate sufficient investments in generation capacity in all electricity markets.

(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?

Any support for specific energy sources distorts the energy market. These distortions may either have positive and negative effects on investments. Understanding the impact of different generation support schemes that are undertaken by Member States can help to inform future designs, to ensure the benefits of compatible approaches are maximised whilst minimising the disadvantages.

In many Member States, support has been envisaged to encourage large scale take-up and deployment of RES, energy efficiency and heating/cooling technologies amongst industrial, commercial and domestic consumers in order to meet the 2020 decarbonisation targets. Renewable energy support schemes can indeed be an effective way to increase the share of renewables in electricity production and thus broaden the range of generation technologies. In some Member States however, some specific support is already or will be available for non-RES (e.g. fossil fuel based generation plants). In any case, such policies need to be implemented in a cost-effective way.

The extent to which support schemes create market distortions very much depends on the specific support design (direct vs. indirect, price vs. quantity-driven, mandatory vs. voluntary, priority and/or access rules, etc.). For instance, feed-in support that is paid per kWh of electricity generated incentivises the production of electricity irrespective of market signals. Support schemes that require the generators to market their own electricity production tend to be less distorting to the market functioning, even though such support schemes may not be as successful in promoting the development of underlying technologies (e.g. renewables).

[2] Most (but not all) electricity markets in Europe are based on an energy-only design, which means that generators are only paid for the energy produced. There may be payments for other ancillary services (e.g. balancing reserves, black-start, etc.) as well in an energy-only market. The essential characteristic is that there are no additional instruments to remunerate available capacity for the spot and derivative market. This is in contrast to the market design of, for example, the Single Electricity Market (SEM) in place in Ireland and Northern Ireland where there are separate and distinct payments to generators for capacity and energy.

Furthermore, the amplitude of the distortions caused by support schemes also depends on the specific technologies that are installed. Additional problems arise if these are non-controllable technologies that produce intermittently. The distortions may also be exacerbated if such intermittent generation resources are exempt from bearing the balancing costs that they create.

As already addressed by the European Commission, determining the extent to which non-harmonised support schemes[3] for any type of energy sources affect market functioning and the investment climate will need further investigation and monitoring, to identify the advantages and disadvantages of harmonisation towards the different energy systems.

Some other indirect supporting schemes - such as priority access and dispatching - may also run counter market-based allocation of resources through merit ordering[4], thus affecting the revenues of other resources that participate in the energy markets. The Agency for the Cooperation of Energy Regulators (ACER) is specifically charged with monitoring network access of electricity produced from RES[5] and will continue to work on this issue.

All in all, the existence of specific supports may induce non negligible impacts on generation investment decisions, which, in turn could increase the risks of jeopardising generation adequacy.

(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?

CEER is of the opinion that the work on the establishment of widely integrated cross-border day ahead, intraday and balancing markets will certainly contribute to ensuring security of supply.

The work on cross-border day-ahead markets allows for better price formation. Complemented with a better coordinated capacity calculation this enables a more effective use of existing cross-border network infrastructure and generation resources in neighbouring countries[6]. Depending on price expectations in neighbouring markets, cross-border day-ahead trades may also reduce investment risk for conventional producers as they are better able to produce for more than just their native markets in times of high RES production. The implementation of wider cross-border intraday markets will ensure higher market liquidity close to real time. These markets can then facilitate the participation of the increasing share of RES in European wholesale markets. Cross-border intraday markets will contribute to security of supply by a more effective market based adjustment to the uncertainly predicted output of RES, reduced forecast deviations close to real time and reduced residual balancing volumes.

Cross-border balancing markets complement as a key element the process of cross-border market integration and ensure TSOs access to additional and complementary resources to balance the system at the least cost. The optimised procurement and activation procedures between TSOs further contribute to a high security of supply level.

[3] Concerning RES, CEER has already collected stakeholders' views on this issue (Implications of Non-harmonised Renewable Support Schemes, a CEER Conclusions Paper, June 2012). While views regarding the optimal design of support schemes differ, stability was felt to be an important factor that affects support schemes.

[4] As reported in the CEER-ACER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2011 November 2012.

[5] Article 11 of Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators.

[6] The recent CWE market coupling for example has led to noticeable price convergence and better usage of interconnectors.

As defined in the ambitious European target model, the cross-border market integration process should be completed by 2014. At the same time it is important to note that the existing and upcoming CRMs may have impacts on the functioning of the target model. These impacts need to be explored in more detail.

National Regulatory Authorities (NRAs) are actively accompanying the implementation process of the respective network codes and have demonstrated their constant commitment to achieving political targets. This active participation will continue throughout the integration process.

(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?

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

As stated in the response to Question 3, the establishment of widely integrated cross-border day ahead, intraday and balancing markets will positively contribute to ensuring security of supply. Therefore, it is important that the IEM rules are in place as soon as possible, in order to realise the benefits and contributions. To this end, ACER and NRAs have specific responsibilities relating the implementation and monitoring of the IEM rules. These responsibilities relate to providing opinions on the network codes and also to compliance and performance monitoring once the network codes are in place.

In addition, ACER has a high level monitoring and reporting role on the overall electricity and gas sectors in Regulation 713/2009 and must publish an annual monitoring report. As part of this monitoring report, ACER shall identify any barriers to the completion of the internal markets in electricity and gas.

This monitoring role is an immensely important one given that a significant number of new requirements will be put in place as a result of the IEM rules. In light of this, ACER has already commenced work on the monitoring of the implementation of the new IEM rules. The specific links between the implementation of the internal market and the Security of Supply Directive[7] are dealt with in the response to Question 9.

The above shows that the EU has already put in place comprehensive measures to monitor the implementation and on-going operation of the IEM.

In addition to monitoring and approval roles for ACER and NRAs, the following actions can be taken to ensure that internal market rules contribute to security of supply.

CEER does not intend to draw an exhaustive list of recommendations but highlights several important measures which can enhance the ability of the IEM to improve security of supply.

In the short term

- Promoting demand side response and removal of barriers to its penetration;
- Ensuring better use of existing interconnection capacity by removing any barriers to trade, and improving current licensing procedures for new interconnection capacity;

[7] Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment

- Ensuring the most efficient integration of variable generation (such as wind and photovoltaic) into the electricity market to ensure that its full benefits are realised.

In the longer term

- Promotion of energy efficiency and flexible demand through, for example, the development of smart grids and the creation of price signals through smart meters or equivalent tools;
- Further development of market based solutions for hedging of long-term investment risks in generation and ensure high market liquidity through effective integrity and transparency rules;
- Promotion of storage technologies (e.g. pumped storage stations) and investment in interconnection capacity to countries with flexible generation capacity.

(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?

CEER regards consumer participation in the electricity market as extremely important and has identified demand response as an area that can deliver benefits both to consumers and to electricity systems. Consumers benefit from an enhanced ability to engage with the electricity market, by managing their consumption according to the system requirements and consequently enabling them to manage their costs. From a system management perspective, demand response has the potential to reduce consumption levels at times of peak demand and at times when security of supply is jeopardised.

Demand response can change electricity usage over time as well as reduce consumption when security of supply is in danger. The change of consumption patterns has the potential to decrease costs over the longer term due to reduced requirements for investments in generation capacity. However, building a smart distribution network capable of dealing with fluctuations in usage could entail additional investments.

Member States can support the active participation of consumers in electricity markets by setting a regulatory framework that fosters:

- Customers' understanding of information on the electricity market and increased provision of information to customers (through smart meters for example);
- Customers' awareness of new marketing opportunities (e.g. participation in balancing markets) or new contracts reflecting actual market situations in an appropriate way (Time of use prices, dynamic prices, critical peak prices, interruptible contracts), etc.;
- Customers' trust in the market and thus wanting to participate;
- A non-conflicting grid tariff to stimulate energy efficiency and demand response; and
- The absence of price regulation.

Nevertheless it should be noted that establishing such a regulatory framework and promoting awareness on the consumer's side has the potential to reduce requirements for investment in generation capacity to some degree. However, it demands appropriate lead time and hence these measures may not be eligible to address short-term problems emerging within the next few years.

2 Assessing generation adequacy

(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 national, regional or European level?

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

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

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

NRAs and TSOs have various existing mandates at both national and European levels to assess generation adequacy.[8] These assessments are a key component for effective system operation that also provides a valuable indication of the level of security of supply. In a period of rapid and significant change in the pursuit of the IEM and climate change objectives, dependable and relevant information is important.

NRAs and TSOs in different countries have different approaches that reflect the unique characteristics of their electricity systems. It is important from the start to recognise the complexities and sophistication of these individual exercises. There is scope to improve existing methods and to identify best practices.

In CEER's opinion, there is currently limited coordination to these assessments at a European level and current practices could be further improved, in particular with regards the collation of data from a wider range of analyses. Any simple aggregation of individual Member State data sets does not provide a complete and fully informative picture of the short and medium term challenges Member States and the Union face. There should be ambition to achieve harmonisation and ensure that the common approach fully takes into account interactions between Member States. This will require some time due to information availability, RES penetration and the different capabilities between NRAs and TSOs.

The issues that are of most interest include:

- Developing a comprehensive understanding of the role of interconnectors and the impact of transmission constraints across and within Member States;[9]
- Assessing the arrangements in place between TSOs for close to real-time exchanges of electricity;
- Assessing the probability that maximum peak load periods coincide in adjacent Member States which would prevent cross-border generation capacities from contributing to security of supply at national level.

[8] For example, but not limited to: the ENTSO-E TYNDP, Winter and Summer Outlooks and capacity assessments.

[9] For example, constraints exist between all Member States, except for the German-Austria border, but also within some Member States.

From a theoretical point of view, all generation adequacy analyses should take in to account the benefits of the IEM. An important and necessary immediate evolution in these assessments is the inclusion of a probabilistic methodology for assessing the risks to security of supply and an acknowledgment of the risk caused by the dynamic capabilities of the generating plant on electricity systems. With increasing amounts of variable generation, there will be an increasing need to include an assessment of system flexibility in generation adequacy assessments. More could be achieved on harmonising analyses and exchanging results[10].

As Member States continue to install greater amounts of flexibility capacity, a European wide assessment of that capacity, in addition to national assessments of availability, would be useful to ENTSO-E in their European Outlook papers. Linking those availabilities would be optimal but CEER recognises that may be a data intensive exercise.

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

(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?

The Electricity Security of Supply Directive (2005/89/EC) forms the cornerstone of the EUs Security of Supply policy and builds upon the provisions in Directive 2003/54/EC.

In particular, Member States (or their delegated competent authority) are required to produce and submit a report to the European Commission every two years detailing the monitoring arrangements in place with respect to security of supply of electricity. This biannual report must examine operational network security, medium and longer term balance between supply and demand and networks investment including interconnection.

Overall, the current Security of Supply framework is a comprehensive one which requires detailed monitoring of the security of supply situation and allows Member States to intervene where adverse situations are expected to arise. However, the Directive is very clear that the absence of transparent and non-discriminatory policies on security of electricity supply would lead to distortions of competition. To this end, Member States must take the internal market and cross-border co-operation into account in the design of their electricity market framework.

In terms of making revisions to the Electricity Security of Supply Directive, changes may not be required at this point in time; however, it may be appropriate to examine this in the medium-term. As set out in the response to Question 3, the implementation of the European Target Model for Electricity will result in greater levels of cross-border co-operation.

In the medium-term, and as outlined in the response to Question 8, it may be desirable for Member States to carry out the reporting requirements under Article 7 of 2005/89/EC on a regional rather than national basis. It may be possible that this regional approach could incorporate risk assessments similar to those required under the Gas Security of Supply Regulation, if they were deemed necessary.

However, it would appear prudent to decide on this once the IEM is operational and to ensure that any such measures complement existing requirements.

[10] An example might be the TYNDP or the corridors under the EIP.

(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?

Generation adequacy treatment in electricity is very important and relates closely to the development of a fully integrated European energy market. Such is its importance that, in March 2010, CEER issued a call for evidence on generation adequacy in electricity, receiving 28 responses; all of which are published with an accompanying summary document on the CEER website[11].

One of the main remarks emerging from these responses was the requirement for a complete definition of generation adequacy. This is very important and relates also to any standardisation of adequacy standards across the EU.

The imposition of a specific generation adequacy standard to date has been a decision typically taken by Member States. The standard itself may be influenced by the different characteristics of electricity systems, specific attitudes to risk and possibly legacy considerations. It is possible and likely that there exists a broad spectrum of standards across Member States and in some cases there may be limited information available.

Given all of the above, there seems to be no solid assessment of the benefits of harmonising adequacy standards at this stage. It appears, however, that harmonisation across the EU may be challenging in the short-term. An impact assessment based on an exhaustive benchmark of existing adequacy standards – including the role of the different parties in the process of defining them - would be a key prerequisite before investigating this issue further.

[11] CEER Call for Evidence on Generation Adequacy Treatment in Electricity Evaluation of Responses: http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Electricity/2011/C11-ESS-24-03_GenerationAdequacy_EoR%208%20Nov%202011_0.pdf

3 Capacity mechanisms

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

CEER reaffirms that a rapid implementation of the target models for energy markets is a top priority. This requires tremendous commitment and involvement from every stakeholder in developing concrete coordinated projects at regional level, but also contributing to the on-going development of a consistent regulatory framework through the electricity network codes. This will enhance IEM by stimulating an efficient cross-border use of current flexible generation facilities and increase incentives for new investments, e.g. day-ahead and intraday market coupling, cross-border allocation and re-dispatch, flow-based capacity calculation, on the basis of relevant bidding zones.

Possible solutions should entail ensuring market-based participation of all energy sources – including intermittent ones - in the energy and the ancillary services markets.

As mentioned in Question 4, additional efforts towards removing existing barriers are also essential for ensuring that electricity markets can function properly. In the short-term, market distortions should be removed as far as possible, while promoting the progressive participation of demand response in energy markets, where economically efficient. In the longer term, more efficient connection procedures, investments in interconnection capacity and new technologies (smart grids, storage facilities, etc.) should also be encouraged, where economically efficient.

Where Member States seek to introduce capacity mechanisms, there should be a careful assessment of the benefits and impacts of these mechanisms in order to ensure the most efficient solution at both national and cross-border levels is realised. This assessment should include an examination of cross-border effects (e.g. cross-border flows, prices, investments, etc.) in the IEM. Any capacity mechanism should be compatible with the objectives of the IEM.

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

a. to ensure that new flexible resources are delivered?

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

The economic mechanism driving investments in generation capacity in a pure “energy-only” market design is the same as the one operating in all other industries. In energy-only markets, the level and the degree of flexibility of installed production capacity will depend upon the interaction between demand and supply of electricity and ancillary services.

In such contexts, when existing capacity is scarce, persistently high electricity and ancillary services’ prices will attract capital accumulation to the industry; on the contrary, when installed capacity is above the equilibrium level, persistently low electricity and ancillary services’ prices will discourage capital accumulation.

However, there might be some market flaws that lead to an economical suboptimal level of generation capacity and may necessitate specific policy measures to ensure an adequate level of security of supply. In the list below, we focus on three aspects of energy markets, without specifying a complete analysis of all possible elements of electricity markets' flaws, in order to point out some elements that may have a negative impact on the functioning of the energy-only market.

The missing money problem

In competitive energy-only markets, the revenues obtained during conditions of scarcity cover a relevant portion of generators' fixed costs[12]. This makes the investment in – especially extreme peak – generation capacity risky, since even small changes in the number of scarcity events can have a dramatic impact on the producers' revenues. The crucial implication of this simple observation is that pure energy-only market designs have an inescapable tendency to produce scarcity from time to time. A specific feature of electricity markets is that scarcity inevitably comes with market power. From a regulatory point of view it is difficult to distinguish between efficient scarcity prices and prices that reflect market power during scarcity events.

Moreover, policy makers are generally unwilling to accept the potentially severe price spikes and the instances of demand rationing associated with energy-only markets[13]. The increasing share of intermittent renewables is increasing the missing money problem. The low marginal cost of renewables reduces electricity spot prices in a significant number of hours during the year. Compared to today, peak prices in both energy and ancillary service markets will therefore need to increase in future, for a conventional generation's investment to be rentable, given the decreasing quantity of hours in which it will be running.[14]

Moreover, some features specific to ancillary services' markets design (e.g. pay as bid or bundle of services traded) may hinder the formation of transparent price signals and thus impede the provision of the right incentives to invest in the efficient mix of resources (e.g. flexibility) needed by the system.

Absence of demand response in the short run

With sufficient demand elasticity, the market would always clear. However, electricity markets do not necessarily reflect such an ideal, textbook-like, guaranteed market clearance. An important feature of electricity markets is the low demand flexibility in the short run. This may be exacerbated by regulatory interventions to reduce price spikes.

When the price-insensitive portion of demand exceeds available generation capacity, involuntary load reduction via disconnections, or load shedding, may become necessary. In this case the prices for electricity have to be set (administratively) at the Value of Lost Load (VoLL). However, implementing VoLL pricing and demand curtailment is a very challenging task. Every technical and administrative shortcoming in the process that sets the price for electricity in the event of scarcity may distort incentives to invest in new generation capacity.

[12] This portion of fixed costs recovered under scarcity events varies between technologies; the highest for peak generation facilities and the lowest for based load plants.

[13] This happened, for instance, during the Californian crisis in 2000.

[14] Because of the low share of reliable renewable generation capacity, conventional generation will continue to be needed to secure energy supply in future (unless capabilities of demand response or storage technologies increase significantly). As the share of renewable generator grows, price volatility is expected to rise, increasing investment risk for conventional (flexible) generation.

Investments' coordination failure

In the traditional vertically integrated design, investment in generation (and transmission) capacity was mostly coordinated by a central entity. In a pure energy-only market design, the decisions to build new capacity are made independently. This induces strategic uncertainty. Indeed, the profitability of an investment crucially depends on the decisions of other potential investors to enter the market. An investment in new capacity tends to be more profitable if others invest less.

For this reason, each investor will want to reduce its investment's vulnerability due to other investors' decisions. This might imply delaying investments, if compared to an efficient path. If this happened, an inefficiently low level of capacity would be available when needed.

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

CEER considers that it is premature, at this time, to make any decision regarding the necessity to develop a blueprint for an EU wide capacity mechanism.

Security of supply is a high priority area for Member States and NRAs. It is important to note, again, that the existing differences between Member States' electricity systems can present different security of supply challenges. Many factors, such as topography and access to natural resources, can influence the design of each Member State's fuel mix. As such, Member States and NRA's typically tailor policy considerations, such as market design, towards specific objectives to address the relative challenges their electricity systems face. Member states with high levels of hydroelectricity capacity, for example, may be in a more advantageous position for backing up wind generation than Member States relying heavily on fossil fuel fired peaking capacity. These differences are not limited to generation but extend to improving the efficiency of system operation, the procurement of ancillary services and implementing incentives to enhance demand side participation and energy efficiency.

Such differences go some way to explaining the various reasons why some Member States have introduced or are currently considering introducing capacity mechanisms. From a high level appraisal of these mechanisms it is not clear to CEER that these measures have been designed to address an identical problem. CEER therefore believes that the need for a blueprint for an EU wide capacity mechanism requires careful evaluation in this context. The fact that Members States and NRAs face different challenges and seek to implement appropriate policy solutions highlights that the need for a blueprint for an EU wide capacity mechanism may not be necessary at this point in time.

There is no doubt that the introduction of capacity mechanisms could potentially impact cross-border trade or create other unintended distortions. Therefore, in the absence of an EU wide blueprint in the short-term, CEER considers there is value in the development and application of common criteria to apply as part of that assessment. The application of those criteria should be made to both existing and potential capacity mechanisms. It is important that any criteria is compatible and consistent with the instruments the European Commission already has in place (such as the Security of Supply Directive and State Aid Rules, for examples) to ensure that any capacity mechanism minimises any possible distortion to the internal market.

CEER would be available to discuss further how this might work in practice.

While there are differences between Member States' electricity systems and policy objectives, it is important to recognise that Member States and NRAs also share many common objectives. The IEM is the prime example. This is a work in progress and the practical benefits should be realised by 2014. CEER suggests that careful evaluation is necessary before taking any decision about a blueprint for an EU wide capacity mechanism. Once the target model is complete and in place, it may be an appropriate time to explore the long-term need for an EU wide capacity market further. In the interim, greater and closer engagement between both Member States and NRAs is essential.

4 Framework for assessing capacity mechanisms

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

Some Member States have already implemented or are considering the implementation of capacity mechanisms, as the result of different policies envisaged at national level (e.g. securing enough capacity to cope with peak demand, guaranteeing that sufficient flexibility is available in the system, etc.). We are concerned that, so far, coordination between neighbouring system operators in defining the rules of such mechanisms may not prove sufficient to ensure full compatibility of market arrangements with the objectives pursued by the achievement of the IEM. An increasing number of analyses intend to put emphasis on this issue. There seems to be a consensus on the fact that interaction of capacity mechanisms with energy markets and potential effects on neighbouring markets need to be analysed further.

This is a concern for NRAs that led to the establishment of an ACER/CEER task force, in order to carefully assess the impacts of capacity mechanisms on market integration and provide appropriate recommendations. We would be happy to discuss our concerns and proposals further with the European Commission and provide assistance in studying those issues on the basis of our current investigations. A possible output of the current debate could take the form of an assessment framework in which compatibility of capacity mechanisms with the internal market would be screened.

Defining appropriate detailed criteria is a very challenging task though. The screening process - in which the selected criteria would apply – would need to be clearly identified, including the responsibilities of different parties and the interactions with existing procedures. In any case, if considered at European level, this framework must be well-structured and sufficiently clear in order to avoid any misinterpretations. We suggest some elements in this direction in the following response.

(20) Do you consider the detailed criteria set out above to be appropriate? Should any criteria be added to this list? Which, if any, criteria should be given most weight?

At this stage, and in the absence of an EU wide blueprint, priority should be given to impacts on cross-border trade and competition.

Without jeopardising the subsidiarity principle and as suggested in Question 19, the criteria should aim at assessing the compatibility of capacity mechanisms with the IEM. From this perspective, CEER gives top priority to the criteria that focus on the impacts of existing and upcoming mechanisms on cross-border trade and competition. If significant distortions are identified, a criterion on effectiveness may then be taken into account.

In principle, a capacity mechanism should be open to competitors from other Member States, provided that they can actually deliver electricity in markets to which the mechanism is established, having in mind the strong interdependencies with the existing and coming design and functioning of energy markets (e.g. capacity allocation). In particular, this issue may be tackled and illustrated threefold.

- Retail markets: for instance, assess whether entry barriers may exist when (i) a supplier in one market cannot benefit from its own capacity fleet located in another market, or (ii) a pure energy supplier with no capacity fleet faces difficulties in entering a market in which integrated suppliers operate;
- Wholesale markets: for instance, assess whether a capacity mechanism may distort the behaviour of market players in the wholesale markets away from a (perfectly) competitive one, which in turn may alter cross-border trade flows and investment signals;
- Capacity market (if any): for instance, assess whether there is undue discrimination in case a capacity which is located in market B may not be able to participate in market A.

Finally, we take this opportunity to share some preliminary thoughts on the content of some criteria listed above - assuming that we do not intend to draw an exhaustive list of observations.

Effectiveness (2)	Effectiveness can be defined as the capacity to reach a pre-determined target, while efficiency is given by the relationship between a given target and the cost of reaching it. As effectiveness is a qualitative concept, it might not be sufficient to evaluate a certain CRM. Therefore, the efficiency of CRMs should be taken into account as well; however, its evaluation is a very challenging exercise. CEER believes that a pure *ex-ante* theoretical analysis (based on limited assumptions and simplifications) is not sufficient to provide key decision tools in the process of implementing certain features of capacity mechanisms and suggests that a careful feedback undertaken by relevant stakeholders (e.g. system operators, NRAs) accompanied by a transparent *ex-ante* theoretical analysis might help to provide a valuable assessment of effectiveness and efficiency. Moreover, CEER notices that the statement of criterion 2 makes an explicit reference to “normal market situations”. Energy systems are complex systems that encompass several possible different markets designs, referred to different objects (e.g. energy and ancillary services) and timeframes. As such, further specification of the precise meaning would provide a clear understanding and allow for possible application of the criterion.
Duration (3)	CEER would welcome some clarification on the rationale behind the requirement in time of the application of capacity mechanisms. CEER views this as a sensible matter to examine further. One could argue that, on the one hand, when willing to correct temporary failures, a capacity mechanism may include short-term investment cycles; on the other hand, when addressing structural issues, a market-based capacity mechanism may promote long-term visibility and a stable investment climate. However, CEER agrees that a periodic review process - for instance to cope with external changes - should be facilitated to minimise negative impacts on markets.
Total Costs (8)	CEER acknowledges that the matter of costs is essential; NRAs should be very careful in weighting the impact of the capacity mechanism for final consumers and ensuring that capacity mechanisms are designed to deliver the identified benefits for the system in a cost-effective way. However, we fear that the key underlying issues (as proposed by the European Commission e.g. minimum costs on suppliers, overestimation of duration and amount of compensation for capacity providers) may be out of the scope of a framework which should only aim at ensuring the compatibility of mechanisms with the IEM.

About CEER

The Council of European Energy Regulators (CEER) is the voice of Europe's national regulators of electricity and gas at EU and international level. Through CEER, a not-for-profit association, the national regulators cooperate and exchange best practice. A key objective of CEER is to facilitate the creation of a single, competitive, efficient and sustainable EU internal energy market that works in the public interest.

CEER works closely with (and supports) the Agency for the Cooperation of Energy Regulators (ACER). ACER, which has its seat in Ljubljana, is an EU Agency with its own staff and resources. CEER, based in Brussels, deals with many complementary (and not overlapping) issues to ACER's work such as international issues, smart grids, sustainability and customer issues.

The work of CEER is structured according to a number of working groups and task forces, composed of staff members of the national energy regulatory authorities, and supported by the CEER Secretariat.