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Public Consultation

A new energy market design

CEDEC answer – 7 October 2015

1) **Would prices which reflect actual scarcity (in terms of time and location) be an important ingredient to the future market design? Would this also include the need for prices to reflect scarcity of available transmission capacity?**

Price signals reflecting scarcity of capacity and oversupply are an important means to incentivize a more flexible energy system. Only if price signals are transparently conveyed to market participants can they react and adapt demand and/or generation accordingly. In an energy system based on increasing shares of variable renewable sources, flexibility is a crucial instrument to ensure security of supply at all times

As the competitive parts of retail prices (the energy components) are a part of the retail energy bills besides grid tariffs, taxes and levies, the effect of market price signals might be reduced.
The activation of flexibility based solely on wholesale prices neglects the interaction between market and grid. In order to guarantee the security of supply, the regional or local grid situation must be also considered. Since renewables are feeding into local grids, grid capacity constraints shoul also be reflected through grid tariff signals at local level.

However, It should be noted, that the introduction of flexible grid tariffs contains the uncertainty of shifting costs for DSO's (for investments and operations). Besides, opposite incentive signals might be given if wholesale prices and grid scarcity situations diverge.

Moreover the necessary instruments and rules are to be developed, so that the grid operators will be enabled to further develop the distribution grids towards smart grids in order to provide new flexibility to the market and support the transformation of the overall energy system. Hence, the effect of contrary control signals from wholesale prices and grid tariffs is critical to examine.

Price spreads between bidding zones actually express the scarcity of transmission capacity between the bidding zones. Therefore the delimitation of bidding zones is fundamental in order to express correct price signals to all participants in the market to facilitate an efficient use of resources in their daily activity as well as for decisions on investments'. But also to decision makers and regulators providing information for planning processes.

Bidding zones should be aligned with structural bottlenecks which do not necessarily coincide with national borders. Moving internal bottlenecks leads to incorrect price signals. TSOs have to address potential internal congestions by non-discriminating re-dispatch, market splitting or by investments (in the long run).

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2) Which challenges and opportunities could arise from prices which reflect actual scarcity? How can the challenges be addressed? Could these prices make capacity mechanisms redundant?

Flexibility options like dispatchable generation, storage and demand-response will be incentivized through high scarcity prices as they will benefit at times when supply is generally low.
Prices reflecting actual scarcity can also help to integrate renewable energy in a better way, enable peak shaving and possibly less investments in iron and copper. Producers, consumers and prosumers should be stimulated in an optimal way to adjust their production and consumption in relation to the actual prices.

However, the challenge of prices reflecting actual scarcity (with the extreme of unlimited price spikes) can be that energy consumers are exposed to extreme price variations. Especially vulnerable consumers and household consumers who are not able to react to price signals due to static demand profiles will very likely be negatively affected by scarcity prices that are being passed on to retail customers. With larger price variations and high scarcity prices occurring only occasionally and unpredictably, insecurity about pay-back times will render long term investment decisions in new generation capacity more complex, possibly resulting in reduced investments.
Most challenges are market model related, such as the exact retribution of roles and responsibilities, and how to deal with conflicting interests between parties for "time of use" elements. Other challenges are more technology related such as storage, massive data exchange between market parties, guarantees about privacy, etc.

Given the occasional and unpredictable character of price spikes, and the higher complexity induced by larger price variations, they probably do not constitute a real alternative for capacity mechanisms.

3) Progress in aligning the fragmented balancing markets remains slow; should the EU try to accelerate the process, if need be through legal measures?

The integration of balancing markets is crucial for the integration of renewable energy. As the shares of variable renewable energy sources in the EU's energy mix rise, more balancing energy and generation management will be needed. The integration of balancing markets generally leads to more liquidity in the market and contributes to security of supply.

The integration of European intra-day and balancing markets can be accelerated with a swift implementation of the network codes and increased cooperation across national borders.
The current network code balancing as revised by ACER has set ambitious targets for the balancing markets and acknowledges the important role of actors, such as the DSOs as neutral market facilitator.

Until the balancing code is fully implemented, the stimulation of more intraday market activity until shortly before real time is a good trigger to foster flexibility. Accurate weather forecasts and

appropriate market reaction until approximately 1 hour before real time decrease the need for balancing power and can be an important driver of flexibility in the market.

The development of the Electricity Balancing Network Code and the implementation of the regional pilot projects are the right instruments to progressively align European balancing markets. Before their full implementation and entry into force, it is hard to justify any additional legal measures at this stage.

4) What can be done to provide for the smooth implementation of the agreed EU wide intraday platform?

The establishment of regional initiatives such as the Pentalateral Forum are a good first step for further integration of energy markets. These kind of initiatives should be encouraged on EU for other regions. In a second step, these regional initiatives should be linked and eventually integrated.

To speed up the integration and better functioning of intra-day markets, the European network codes must be swiftly adopted and implemented on national level To support the (early) implementation on Member State level, some stakeholder groups already exist (AESAG, BSG), but it is important to establish a permanent and efficient European structure for all network codes & guidelines involving all stakeholders, including Distribution System Operators (DSOs). ACER and ENTSO-E are working together to set up this structure around a number of Stakeholder Committees that will not only interact on EU level, but will need to have important exchanges with national and/or regional structures in the Member States.

5) Are long-term contracts between generators and consumers required to provide investment certainty for new generation capacity? What barriers, if any, prevent such long-term hedging products from emerging? Is there any role for the public sector in enabling markets for long term contracts?

Long-term contracts between generators and customers may be helpful for investment decisions but reduce liquidity in the market and potentially distort market price formation and market functioning.

A distinction must be made between large generators and large industrial consumers (where previous experiences often turned out unsuccessful) and local generators and local consumers on a smaller scale, where potential may grow.

For many consumers a long-term contract would probably not bring any financial advantage as most businesses will pass on to their customers similar cost levels as their competitors, which is an electricity price based on current market conditions.

Constraints caused by lacking or insufficient transmission capacity should also be considered.

The alternative to take into account the possibility of long term contracts for flexibility should equally be taken into account.

(It is not clear what is meant with “the public sector”.)

6) **To what extent do you think that the divergence of taxes and charges levied on electricity in different Member States creates distortions in terms of directing investments efficiently or hamper the free flow of energy?**

In many Member States household customers have been increasingly charged with taxes and levies on their energy bills, more than industrial customers. The purpose and height of these surcharges – mostly to finance (social and environmental) market failures - vary considerably between Member States. The divergence of taxes and charges reflect the energy market design and other policy areas in the Member States. Comparisons have to be all-encompassing in scope.

First and foremost it is important to create transparency on what kind of taxes, levies and public service obligations are part of the retail energy bills.

As investment decisions in generation are mainly based on availability of local resources, available network capacity and expected wholesale prices, the integration of taxes and charges in retail prices – as they figure on the supplier’s bill – do not distort the direction of efficient investments.

If fiscal, social or environmental national legislation imposes legitimate obligations on generators - thus impacting the free flow of energy – must the free flow of energy than get the priority over all other policy fields? Aren’t there other important elements than charges and levies that hamper the free flow of energy?

To ensure fair competition across borders, principles behind system utilization charges need to be aligned with European partners.

7) **What needs to be done to allow investment in renewables to be increasingly driven by market signals?**

The deployment of renewable energy in European Union’s energy mix is a common objective. For this reason, renewable energy should be supported in their market integration with the right framework conditions. Wind and solar, the fastest growing renewable energy sources in Europe, have different characteristics than traditional power plants. They are mostly smaller in size, decentralized and variable in their outputs. When speaking about market integration, the market therefore has to evolve in a way that allows for this integration, without creating obstacles for these technologies coming with different needs than traditional generation plants, however giving them an adequate degree of responsibilities (i.e. in the balancing activities) linked to their participation to the market

Traditionally renewables have been supported by feed-in tariffs in many Member States. A shift toward feed-in premiums that can currently be witnessed, is better aligned with market signals and facilitates market integration. With increasing marketing obligations, such as balancing responsibilities for larger RES generators, this development has been underpinned.
In many Member States, the costs for grid connection of decentralized renewable generators is supported or socialized to a larger extent than the connection costs for other grid users. Albeit that the cost of grid connection and infrastructure development (in both the transmission and distribution level) are important parameters in achieving the RES-targets, renewable energy project developers in these cases are not incentivized to take grid parameters into account when looking for a site, and are not incentivized to efficiently use existent infrastructure. Therefore the grid connection possibly could contain a locational signal, taking into account the costs of local grid reinforcement.

If the full adoption of market responsibilities and the cost reflectiveness of grid connection, would require additional financial support to cover extra risks or costs, it is preferable to grant this support in the form of a (temporary) premium.

In order to allow for a market design fit for renewables, a model has to be created in which RES generators and prosumers can offer their flexibility to market parties (like aggregators) and network operators. This will provide extra incentives to invest in renewables. A way to do so is by the creation of a flexibility market, where consumers, market parties and network operators have the opportunity to conclude short and long term flexibility contracts to deal with capacity constraints.

8) Which obstacles, if any, would you see to fully integrating renewable energy generators into the market, including into the balancing and intraday markets, as well as regarding dispatch based on the merit order?

The absence of a price signal deriving from the ETS, due to the low carbon price, does not reflect the true costs of fossil-fuel-based generation, aggravating the integration of renewable energy.
Therefore, a far-reaching reform of the ETS post 2020 is urgently needed in order to establish a meaningful carbon price that internalizes external costs of power generation and sends investments signals in least polluting technologies.

Moreover, statistics show that subsidies to fossil-fuels and nuclear energy still outweigh renewable support in Europe. In a recent statement the G7 group has advocated for a phase-out of fossil fuel subsidies: this should be translated into practice, in order to reach a level playing field among market-ripe generation technologies.

Finally, the integration of intraday and balancing markets is progressing slowly and making the participation of renewables more difficult. In many markets the liquidity is rather low. For renewable energy generators, being less predictable in output than traditional plants and therefore more dependent on these short-term markets, the slow development of these markets remains an obstacle.

With better functioning of short-term markets, the presence of highly-flexible plants could optimize the generation mix and the traders' portfolio, market participation for renewable technologies could be enhanced and flexibility solutions on the supply and demand-side could be stimulated (highly-flexible power plants, storage, demand-response).

9) **Should there be a more coordinated approach across Member States for renewables support schemes? What are the main barriers to regional support schemes and how could these barriers be removed (e.g. through legislation)?**

While common principles to support schemes are helpful (see EC staff working document on RES support schemes) and an exchange of good practices are useful, there should be sufficient flexibility for Member States to support the deployment of certain renewable energy technologies in the most cost-efficient way.

Member States must also in the future be able to define their own RES support schemes. From an electricity system and network perspective, a well-balanced technology mix is advisable.

As local resources and technology potentials but also legal & administrative procedures and access to capital vary greatly across Europe, different support levels are necessary to support the market uptake of new technologies. These differences should be addressed nationally in order to ensure cost-efficiency for consumers.

10) **Where do you see the main obstacles that should be tackled to kick-start demand-response (e.g. insufficient flexible prices, (regulatory) barriers for aggregators / customers, lack of access to smart home technologies, no obligation to offer the possibility for end customers to participate in the balancing market through a demand response scheme, etc.)?**

Demand-response (DR) is an essential new option on the energy market, getting more important with a growing share of decentralized generation and with the decoupling of supply (generation) & demand.

Consumers are currently insufficiently aware of the impact on their energy consumption, possible savings, costs and comfort. Hence, clear and transparent information to consumers is needed.
For larger industrial consumers, DR offers are currently already available on the market and in operation. For household consumers, fewer price signals, lacking enabling technologies(such as smart devices) and higher transaction costs (compared to limited potential benefits) are at the basis of a limited market uptake.

Therefore we are convinced that a transparent and stable market model is required, combining several elements:

1. The creation of a local flexibility market for consumers, suppliers, aggregators and DSOs;
2. The availability of flexible supply prices and possibly flexible/locational grid tariff, in case consumers dispose of a smart meter;
3. The possibility for all market parties to conclude contracts for flexibility;
4. The availability of storage, for short-term congestion and long-term trade.

Moreover, consumers – especially household consumers - would most likely not be willing to actively steer products at all times, therefore, the availability of smart appliances automating these procedures is essential. Only when consumers know that demand-response will be hassle-free for them and fully guarantee the protection and privacy of their data, will they be willing to engage.

Demand-response on a larger scale can only be enabled by future-proof smart energy distribution networks, to which the vast majority of decentralized generators and consumers are connected. Being fully regulated, DSOs depend on the incentive regulation to make the necessary investments in smart technologies that enable efficient demand-response. Currently, regulation for DSOs rather incentivizes investments in traditional grid enforcement (copper-plate principle) than into innovative solutions like ICT and smart components . Moreover, the limited pass through of OPEX in many Member States can discourage smart grid investment when grid tariffs are based on historical cost and do not integrate the new costs related to the operation of a smart grid. Hence, an adaptation of the incentive regulation for DSOs is needed to support the uptake of demand-response services.

Demand sources should have equal market access as supply resources (to forward, day-ahead, intra-day and balancing markets) provided they fulfil the criteria needed for these sometimes very specific markets.

On the possible types of contractual relationships, we refer to the CEER paper on “The future role of DSOs”. Clear and transparent contractual relationships will be an important element for establishing confidence in a flex market.

Defining roles and responsibilities in the market

The kick-start of DR would certainly be accelerated by a clear definition of roles and responsibilities of actors in the market that would allow for a clear business model and regulatory certainty. Third party aggregation service providers, who emerge on the market and contract with consumers should follow clear information protocols regarding the energy supplier of this consumer. Moreover, balancing responsibility in a connection point must be clearly defined and ensured in order to avoid gaps and overlaps in the balancing responsibility of different actors with whom contracts exist (for example supplier and aggregator) that might be active on a single connection point (be it a consumer or a generator).

Financial adjustments are necessary when several parties are active on the same connection point and source flexibility for selling it on energy markets. Any party experiencing an unfair financial disadvantage caused through the action of another party that intervenes in an existing

contractual relationship, needs to be adequately reimbursed for this (for example a BRP through the intervention of an aggregator). This requires the management of the data related to this point by the same entity, the DSO. However, an alternative could be separate meters and thus separate balancing responsibilities on a connection point for activities by different actors (supplier and aggregation service provider), although this alternative can only be realized with much higher costs .

The current version of the Electricity balancing code (as recommended by ACER) has taken an important step to define the roles and responsibilities in balancing. This codes requires both suppliers and BSP's to have a contract with a BRP, while it also recognizes the DSO as the party who has to deliver (in its role as market facilitator) the necessary data to the TSO for doing the financial settlement.

The same principle (where an aggregator has to associate with an BRP that is independent from the BRP of the supplier) should be applied for flexibility that is sold by aggregators in the intraday market.

Equally important is to clarify who is responsible for the volumes which are taken at a later time after the activation of flexibility. In general, after an activation of flexibility, especially industry customers will take more energy than forecasted at a later time to recover the production which could not be produced due to the activation of flexibility. At present in most member states, the balancing responsible party (BRP) has to bear costs and risks of these volumes. Causing this imbalance due to the intervention, an aggregation service provider should also be responsible for any volumes which were taken at a later time due to a previous activation of flexibility.

Regarding possible legal barriers, MS have developed different market models with different possibilities for the actors offering demand response : this should be taken into consideration when planning possible regulation at EU level. We do not believe that there is one single solution fitting all national retail markets.

11) While electricity markets are coupled within the EU and linked to its neighbours, system operation is still carried out by national Transmission System Operators (TSOs). Regional Security Coordination Initiatives ("RSCIs") such as CORESO or TSC have a purely advisory role today. Should the RSCIs be gradually strengthened also including decision making responsibilities when necessary? Is the current national responsibility for system security an obstacle to cross-border cooperation? Would a regional responsibility for system security be better suited to the realities of the integrated market?

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12) Fragmented national regulatory oversight seems to be inefficient for harmonised parts of the electricity system (e.g. market coupling). Would you see benefits in strengthening ACER's role?

Strengthening and clarifying of ACER's role is indicated when issues with substantial cross-border aspects are at stake. National regulators do have a more detailed understanding of national energy markets and should be responsible for implementing and overseeing EU regulation in the Member States.
Moreover, it is important that diverging national circumstances are taken into account, such as the specific competences of national/regional authorities in the different Member States.

In the case that ACER does attain more responsibilities, it must be ensured that NRAs do not duplicate the efforts and that no additional regulatory burden is created.

13) Would you see benefits in strengthening the role of the ENTSOs? How could this best be achieved? What regulatory oversight is needed?

In any case, strong regulatory oversight is needed to guarantee a balanced representation of interests. This should prevent that only particular interests are given priority, and should ensure balanced responsibilities - in the general interest - between network operators at transmission and distribution level.

An absolute precondition for strengthening the role of the Entso's is an equal appreciation of the DSO issues related to the DSO-TSO interface.

14) What should be the future role and governance rules for distribution system operators? How should access to metering data be adapted (data handling and ensuring data privacy etc.) in light of market and technological developments? Are additional provisions on management of and access by the relevant parties (end-customers, distribution system operators, transmission system operators, suppliers, third party service providers and regulators) to the metering data required?

As generation is becoming increasingly distributed with small units producing energy close to the consumers and often even on their roofs, the managing of demand and supply (generation) becomes an increasingly local issue and has considerable impacts on the local grids. Congestions may occur at times of high feed- in of electricity and low demand and when not closely monitored might lead to grid instabilities . In managing these processes, Distribution System Operators are taking an ever-more important role. They are monitoring and managing the congestions in the bi-directional electricity flows, and watch over the demand-supply equilibrium to ensure the highest possible level of local security of supply, at all times.

Several instruments are being developed by the DSOs for dealing with non-steerable, locally generated power – local storage systems, smart charging of electric vehicles, flexible tariffs to support flexibility providers, etc. All off these need accurate data and reliable data

communication systems to ensure the DSOs' mission critical activities and guarantee for the consumers an uninterrupted supply of high quality.

The emergence of new activities, actors and markets at local level address an even more active grid manager and market facilitator role for DSOs. Accordingly, the regulatory framework for DSOs should enhance their toolbox to perform their roles, and ensure adequate remuneration mechanisms in order to promote innovative investments.

DSOs and flexibility services

If local imbalances of demand and supply occur that would seriously endanger grid stability and security of supply, the DSOs managing the grid operations must have the right for priority access to any kind of flexibility, both from generation and demand, as well as the interruption of market processes in case of severe threats for grid instability. This intervention in the market needs to be part of their regulated toolbox as their core task of providing security of energy supply is in general public interest and goes beyond particular commercial interest. A clear set of rules, therefore needs to be elaborated, which ensures that markets can operate freely as long as the grid stability is ensured and that allows DSOs to intervene and use flexibility services for grid purposes when necessary.

The traffic light concept provides a clear and transparent framework to steer interaction between smart markets and smart grids while enabling also flexible national solutions, depending on specific situations. The traffic light concept defines the grid/market interaction rules corresponding to the green, yellow and red state (eg. "green": market is fully operating, no interaction, "yellow": emerging grid constraints, DSO - market interaction according rules to be defined, "red": imminent grid stability/security of supply issue: DSO intervention overriding market functioning). Introduction of a traffic light concept would not only increase transparency but also support fair competition in future markets. The concept refers to the use of flexibility in general and the corresponding execution.

Data Management, Data Communications and Privacy & Security

DSOs are at the core of supporting the transformation, connecting distributed energy resources and empowering consumers to take a more active part in the energy system, for example, through smart meters in those Member States where a positive cost benefit analysis (CBA) justified the roll-out of smart meters and a decision for implementation has been taken.

To maintain a high quality of supply in this dynamic environment, DSOs will have to monitor their grid at all voltage levels. The progressive roll-out of smart meters (where applicable), the automation of the grid and the deployment of sensors will produce large quantities of data, which will have to be managed in an efficient way. DSOs have a long experience in data management; they are in most countries responsible of managing the data flows from meters at consumption and generation sites, in order to ensure the secure and reliable grid functioning, they are neutral facilitators of the market at the same time.

By collecting, validating, processing and providing the data in a secure, efficient and non-discriminatory way on (de)-centralised data hubs to authorized market parties (i.e. suppliers, commercial demand aggregation service providers, etc.) they facilitate the market trading flexibility from all sources and opening up new business opportunities for market players. As highly regulated entities, with a non-commercial intent, they are best placed to ensure a level-playing field for the competing commercial parties.

For many consumers and market parties the importance of the availability of data is critical, just like data privacy and data security. For this DSOs need to have a data communication system in place that reflects the mission critical importance of it with more specific requirements than the normal telecom operators could deliver. As the market can only work when it is trusted by its users, therefore security and privacy of data is of utmost importance. Trust can best be obtained via a neutral, non-commercial party like the DSO. For this reason, many DSOs have taken the initiative to take an active part in the data privacy debate and develop rules for secure communications.[1] The rules for data communication are notwithstanding the fact that the ownership of the data lies with the consumer. Therefore any data can only be provided to third parties with an explicit agreement of the consumer.

15) Shall there be a European approach to distribution tariffs? If yes, what aspects should be covered; for example tariff structure and/or, tariff components (fixed, capacity vs. energy, timely or locational differentiation) and treatment of self-generation?

Distribution tariffs are very different in many European countries, regarding their height, cost components, taxes, levies and public service obligations included. Moreover, costs vary as the roles and responsibilities of DSOs are not identical and distribution networks are very different: rural vs urban, number and density of connection points, length of the grid, RES penetration.. While there are trends for all European DSOs (i.e. clear need for larger capacity-based and/or fixed components in network tariffs due to increased self-consumption), the specifics depend largely on the local situation. CEDEC therefore strongly supports the adaption of distribution tariffs with larger capacity components. Nevertheless, a common approach beyond principle level (the cost-cause principle, cost-reflectiveness, no cross subsidies and attention for regional differences) seems neither feasible nor desirable.

Timely and locational differentiation in the capacity tariff should be possible, to allow DSOs to introduce flexible network price signals, where this is cost-efficient and where smart meters are in place.

[1] https://www.encs.eu/

16) As power exchanges are an integral part of market coupling – should governance rules for power exchanges be considered?

In order to ensure competition among platforms and to avoid high transaction costs, there should be more than one power exchange per relevant market . If the number of power exchanges is too reduced and constitutes a de facto "monopoly", regulation is needed.

17) Is there a need for a harmonised methodology to assess power system adequacy?

A harmonized methodology for power system adequacy is crucial for Europe in order to ensure that all relevant factors impacting system adequacy (on transmission and distribution level) are counted in and that the costs of overcapacities are reduced to the most optimal level. Moreover, with a uniform assessment methodology also the resulting mechanisms - if deemed necessary and implemented – will be more compatible and hence contribute to the integration of energy markets.

As preconditions are different in various countries, the standard harmonized methodology may be completed with additional national assessments.

In CEDEC's view, a security of supply assessment should have the evolution of electricity demand in the coming years as a starting point: withEurope´s current energy efficiency policies in place, the electricity demand would slightly decline in the coming years, although this evolution might be offset by the electrification of heating, cooling and transport and by the growth in the use of information and communication technologies. Demographical changes, regional development, and other developments such as decentralisation of energy supply and demand, will also play a role and should be carefully assessed as part of the general exercises.

Assessments should also take into consideration the interconnection capacity, an important element in the completion of an integrated market for energy. An efficient use of smart infrastructure, both on cross-border transmission level and distribution level, combined with demand-response mechanisms, may decrease the need for additional generation capacity. It is therefore crucial that in the assessment the contributions of all resources, on the supply and demand side, as well as the transmission and distribution infrastructure, are considered. Equally important, the assessment of different design options should carefully consider the link between capacity remuneration and the integration of different flexibility options in energy markets, both necessary for future fit energy markets.

18) What would be the appropriate geographic scope of a harmonised adequacy methodology and assessment (e.g. EU-wide, regional or national as well as neighbouring countries)?

While the methodology should be harmonized across Europe, the actual assessments should be made on an at least neighboring country level, preferably even regional scale. Due to the very different power systems (i.e. generation fleet, levels of interconnections, etc.) assessing system adequacy on a European level does not seem to be the most sensible option. In fact, the physical

connection of systems plays a crucial role in creating security of supply. Hence, the assessments should be made on the most adequate level, taking the physical realities into account.

19) Would an alignment of the currently different system adequacy standards across the EU be useful to build an efficient single market?

Yes, in CEDEC's view the harmonized methodology and standards would allow for a more coordinated approach in ensuring power system adequacy and hence be a driver for a European single market. With common standards for the assessments (see Q 17) a more complete and all-encompassing picture of the power systems will be achieved. This integrated view would then lead to more coordinated approaches to ensure system adequacy, avoiding contradicting designs and possible cost-inefficiencies. However, the assessments should be made on the most adequate level, taking the physical realities and regional differences into account.

20) Would there be a benefit in a common European framework for cross-border participation in capacity mechanisms? If yes, what should be the elements of such a framework? Would there be benefit in providing reference models for capacity mechanisms? If so, what should they look like?

If Member States introduce capacity mechanisms, the design should be open for the participation of all capacities, be it on the demand or supply-side, and from the national territory as well as neighboring countries, given a physical connection and useful network capacity are available . A discrimination of foreign capacities would be against European competition rules. A European framework for this could be helpful to Member States in this regard.

On the other hand, the deep and fast changes actually occurreing in the sector are requiring adequate strategies by Member States, in order to arrive at a long-term optimal generation mix, . Thus, transitional mechanisms introduced by Member States should be allowed – for a limited time period and under certain conditions .

Some general principles, as elaborated in the European State Aid Guidelines, must be guarded If Member States decide to introduce capacity remuneration mechanisms of some sort on their national territory. CRMs should be market-based and stimulate innovations. As mentioned above, CRMs should be open for capacity from neighbouring countries, where sufficient interconnection exists. Moreover, when introduced by Member States, capacity remuneration mechanisms should not contribute to a lock-in of inflexible and the most polluting generation capacity. Against the background of the overarching European climate and energy targets, generation adequacy measures should facilitate the market participation of flexible technologies which can fill in at times of low supply (e. g. highly-efficient and flexible CHP plants, power storage, programmable renewable power generation and demand-side management programs).

As a consequence, reference models for capacity mechanisms, establishing minimum requirements regarding the capacities participating, functionalities and market processes, can

also be useful tools for Member States to create capacity mechanisms that are in conformity with EU rules, allow for a wide range of resources to participate and do not stand against the integration of energy markets.

21) Should the decision to introduce capacity mechanisms be based on a harmonised methodology to assess power system adequacy?

Some Member States have already introduced capacity mechanisms, thus the harmonized methodology is coming too late for the first introduction. Nevertheless, in order to avoid the introduction of costly mechanisms for consumers where they might not be needed, a decision based on a common methodology can be useful. Nevertheless, specific attention needs to be paid to the potential risk of underestimating the local differences and to the national policy priorities in the energy sector

In this case, also existing systems should be scrutinized according to the criteria of the assessment in order to avoid market distortions and discrimination between Member States.