

Jean-François Cirelli

Vice Chairman and President

Mr. Philip Lowe
European Commission
Director-General for Energy
DM 24 08/084
Rue de la Loi, 200
1049 Brussels

Paris, February 4th 2013

Dear Mr. Lowe,

Please find attached the response of GDF SUEZ to the much welcomed consultation paper on generation adequacy, capacity mechanisms and the internal market in electricity, published in the context of the Commission communication on the internal energy market.

We are convinced that the implementation of capacity remuneration mechanisms (CRM) is absolutely necessary. In our opinion, CRM are not intended to replace the energy only market but, on the contrary, well designed and well implemented **CRM compatible and complementary to the energy only market** would foster a better integration of renewable energies and ensure the secure supply of electricity.

We also advocate the need for a pan-European system which will lead to a positive and reliable investment climate.

We also join for information our GDF SUEZ summarising position paper with regards this subject.

Should you have questions on the response, do not hesitate to contact Mrs. Gwenaëlle Huet (+33 1 44 22 20 85 - gwenaëlle.huet@gdfsuez.com).

Yours sincerely,

Jean-François Cirelli

HEADQUARTERS GDF SUEZ

Tour T1 - 1 place Samuel de Champlain

Faubourg de l'Arche - 92930 Paris La Défense Cedex
Tél. +33 (0)1 44 22 00 00

www.gdfsuez.com

GDF SUEZ - SA AU CAPITAL DE 2 249 175 953 EUROS - RCS NANTERRE 542 107 651
Siège Social : 1 place Samuel de Champlain - 92400 Courbevoie

GDF SUEZ Key Messages on Capacity Remuneration Mechanisms

It is clear that a **general decrease in the load factors of thermal power plants** is currently taking place in Europe. Several reasons account for this phenomenon: 1) Cyclical causes linked to the current economic crisis; 2) More structural causes in the form of the development of renewable energy sources. 3) In addition, the inexpensive cost of coal and the very low price of CO₂ mean that of all thermal power plants, CCGTs are those most affected.

This situation is undoubtedly endangering the investments in new conventional plants which are urgently needed by the power system. Even more worrying is the reality that existing thermal power plants, built in an open market system without support schemes (as opposed to out-of-the-market RES) no longer reach the expected profitability and may have to be prematurely decommissioned due to profitability concerns.

In response to these critical issues, the Group wishes to express the following remarks:

The Group is convinced that the EU-ETS should be reformed so that the right investment signals for a low carbon energy system are provided to the market.

Our position is that, in order to address the above mentioned structural causes of the general decrease in the load factors of thermal power plants, further intermittent RES development requires an increasing amount of back-up and reserve power capacities to be provided by both existing thermal power plants, in particular natural gas power plants, as well as new flexible capacities, including energy storage¹. In the absence of these investments, the ambitious RES targets will be unachievable. Furthermore, **deep concerns over security of supply will arise** because of insufficient investment in thermal units or storages as well as premature decommissioning.

Therefore, given the fact that the energy-only market (EOM) no longer delivers the correct price signals to attract investment in conventional plants, **capacity remuneration mechanisms (CRMs) are becoming increasingly necessary** so as to provide appropriate remuneration to flexible generation assets. **CRMs are legitimate** given the evolution of the electricity system (more intermittent RES). They are the sole means to ensure that sufficient thermal power generation capacity, using gas in particular, is available to back up electricity supply, as is necessary when intermittent renewable energy sources are not producing.

CRMs are likely to provide a more certain route for recovering the value of capacity than the alternative of relying on capturing high peak energy prices. CRMs should not hinder the continued efforts to achieve **the completion of the internal energy market** by the integration of wholesale electricity and gas markets, as well as by making customers react to market prices.

¹ This is in conjunction with grid investments to transport the energy from their dislocated generation to the consumption or to manage (smartly) the inflow of dispersed generation in distribution grids.

Such mechanisms should be designed with the aim of minimising the market distortion caused by RES policy:

1. CRMs should provide fair remuneration for generators in a level playing field in order to avoid distortions relative to RES. This is particularly important for this industry which, like any other, is characterized by boom and bust cycles. This state of affairs is further aggravated for the electricity sector by the increasing share of intermittent RES generation (although the need for flexible backup capacity remains) and, as a result, a concurrent contribution to a decreasing (residual) electricity demand;
2. CRMs should apply to all assets which contribute to the security of the system (both existing and new). Any system only focused on new capacity should be avoided as it would discriminate between capacities delivering the same system adequacy. In addition, such a CRM fostering only new capacity would not favour the lifetime extension of existing thermal power plants or investment in greater flexibility of existing units, either of which might be more cost effective than stimulating new capacity. Finally, the exclusive remuneration of new units would quicken the speed at which existing units are being pushed out of the market because of the need to compete with CRM-supported highly efficient new plants as well as (subsidised) RES plants. The end result is that this situation would be more costly than including, as a starting point, all assets;
3. Strong coordination of national CRMs between highly interconnected countries and regions should be pursued in view of developing, ultimately, a single system for each of the interconnected markets as the most sustainable solution to avoid market distortions. We favour, in due course, a pan-European CRM;
4. It is crucial to address and remove market distortion caused by regulatory requirements on plant operations and price caps or floors, taxation etc.;
5. The full market integration of electricity from renewable energy sources should be pursued without delay so as to meet scheduling, nomination and balancing requirements. This will require an evolution of RES support schemes for new investments in order for them to be more market-based and for there to be progressive convergence through a pan-European approach.

This issue is of the utmost importance to the energy industry given the existing concerns, in particular for gas, over future investment decisions and decommissioning. Therefore we urge EU decision makers to support a well-designed CRM in order to ensure the security of supply of the electricity system.

GDF SUEZ answer to EC consultation paper on generation adequacy, capacity mechanisms and the internal market in electricity

Main messages

In general, GDF SUEZ believes that well functioning energy markets are in principle appropriate to cope with generation adequacy issues and, therefore, **the integration of the European energy markets should remain one of the key targets** of the European Commission.

GDF SUEZ also believes that **a well designed and well implemented Capacity Remuneration Mechanism (CRM) is not opposed but complementary to an energy market.**

On the contrary, a CRM can address some “uncomfortable” features of an Energy Only Market (EOM). In particular, a CRM can avoid relying on random price spikes to recover investment expenditures¹. It **provides more stability and comfort** to customers and investors, instead of depending on the energy price volatility, in particular in a regulatory unstable environment.

Furthermore, **a CRM can be an efficient tool to attract demand response to the system**, e.g. by integrating demand response incentives in the pass through of the CRM cost to end customers.

Preliminary remarks

- With the notion of **Energy Only Market (EOM)** we understand in the text below a market comprising forward, day ahead, intraday reserve and balancing markets but without any CRM.
- The notion of “**energy market**” is an electricity market without specifying whether it is complemented with a CRM or not.
- Whether a CRM will achieve the goal of generation adequacy depends on its **design** (quantity- or price-based for instance) and on its **implementation** (choice of features/parameters). We assume in the text below always that a CRM is adequately designed and implemented in order to achieve generation adequacy.
- When “investment” is used hereafter, it refers to both new capacity and to repowering investments needed to keep existing plants in the market.

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

We would like to stress that **absolute market price levels are not a good indicator for conventional generation investments**: relevant is the spread between power, fuel and CO₂ prices. As a matter of fact, current spot, forward and estimated longer term spreads don't allow to cover fixed costs (investment & operational) of new gas and coal units (in some cases not even the fixed

¹ In an EOM, prices should rise above the short-run marginal system cost in periods of high stress (price spikes). Those revenues (scarcity rents) are also needed to cover investment costs.

operational costs, e.g. the costs related to contract gas grid capacity), and their expected evolution is rather bearish taking into account the anticipated increase of RES (displacing anyway conventional plants to the right hand side of the merit order) and also uncertainty on the CO₂ driver. However, low market price levels can also express the fact that there is (temporary) an oversupply in the system.

- There is a long lead time between an initial investment decision and the commissioning of a power plant: considering the internal decision and approval process, the design and procurement phase, the permitting process, construction and commissioning, we speak about 6 years for a combined cycle gas turbine (CCGT) and even much longer for a coal fired power plant (CFPP). Forward markets do not give price signals over such a long time period.
- **Investment decisions are not only based on current market conditions but essentially on the expected evolution of a number of value drivers over the lifetime horizon of the investment (20 years and more), such as**
 - the expected fundamentals in the market: supply/demand balance, power/fuel/CO₂ prices;
 - the regulatory environment and the uncertainty around it: CO₂ and RES objectives, energy efficiency targets, taxes and levies etc.;
 - the expected impact of new technological evolutions (smart grids for instance);
 - the right to freely enter (invest) but also to freely exit (decommissioning old plants, mothballing plants) the market for economical reasons (unprofitable plants).
- **Current expectations are not favourable to investment decisions in many Member States.**
During the last years, conventional generation units (especially gas units) suffered from decreasing load factors (% running hours²). As an illustration, see below the (aggregated) evolution of the load factors of the GDF SUEZ CCGTs in different MS.



This evolution can be explained by:

- The increasing intermittent RES capacity
- The decrease of demand, due to the economical crisis
- Competition distortion due to additional charges, taxes, levies on conventional generation units
- Overcapacity in some MS, due to:

² % running hours = MWh produced / MW installed * 8760 h

- New recent investments based on too optimistic perspectives
- Reluctance of generators in the past or (in some cases) legal prohibition to withdraw existing (unprofitable) power plants from the system.
- Decreasing coal prices (due to decrease of coal demand in the US as a consequence of the development of shale gas) and CO₂ prices (entailed by demand decrease), pushing gas units out of the money in Europe.

The expected evolution of the operating hours and margins of existing/new thermal assets in competition with new expected RES assets is not optimistic, leading to:

- Expected premature decommissioning (permanent or temporary) of existing conventional plants due to persisting plant profitability issues
- As a consequence, progressive appearance of random and huge market price spikes reflecting the tightness between supply and demand
- **Reluctance of investors to decide new power plant investments when they have to rely on price spikes to recover investment expenditures.**

Furthermore, uncertainty around the long term RES and CO₂ targets and the question whether those price spikes will be accepted by the regulatory authorities add further risk to the investment in (conventional thermal) generation assets. This means that a "30 year decision" has to be taken in an environment based on "price spikes" to guarantee the profitability of the investment, while it is unpredictable how many random price spikes will occur and if they will be accepted by the market or the authorities, etc.

(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?

- The decision to build thermal generation capacity was based on RES development (European and national) targets at a given moment. However, at least in some countries, the RES development has substantially deviated from those targets and puts conventional plants in additional financial stress. This undermines confidence for non-support based investments with, as a consequence, a possible negative impact on generation adequacy through anticipated decommissioning of existing units and postponing/stop of new investments.
- However, (intermittent) RES-E generation capacities have limited contribution to generation adequacy and they are generally not responsible to deliver the backup capacity needed in the system.
- We share the EC concerns about the good functioning of a European energy market. Therefore, we invite the EC to assess its position on bringing new renewable energy sources into the market, with the aim of creating a level-playing field for all electricity producers.

(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?

- Any initiative that contributes to market integration has a positive impact on the global security of supply level because it improves the use of the power system (e.g. by mutualisation of reserve capacity, better tools for optimising asset dispatch and to a globally lower need for generation capacity).

- Nevertheless, security of supply is mainly a matter of the availability of sufficient assets at all moments (generation, grid but also demand participation) and less a matter of optimisation tools.
- Therefore, **market integration can be considered as a needed (but not sufficient) requirement** for a regional/European generation adequacy because it increases the optimal generation dispatch, resulting in an overall socially optimal price for the customer and it allows to discover the amount of capacity needed in the system. Therefore they should be implemented asap.
- We observe that the current targets for day ahead, intraday and balancing integration (2014) are lagging behind due to the complex and time consuming process³. Regarding the timeframe issue, the implementation will depend on each European region. For example, the Iberian Peninsula can be considered as an electrical island. As long as that situation persists, contribution of cross border trade to security of supply will be limited. Meanwhile, the national authorities of the region should work together to ensure security of supply and generation adequacy at the lowest cost.

(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 following additional steps at European level can contribute to generation adequacy:

- We welcome the EC initiatives to push Member States for **implementing fully the Third Package**, as this is a pre-condition to create the conditions for a level-playing field between Member States.
- The promotion of coordination of market design between Member States can be considered as one first step, **avoiding competitive distortions** and, as a consequence, improving the investment climate. Therefore, the following initiatives should be taken:
 - support of a regional/European level playing field (harmonization of taxes, levies, grid tariffs for generators, etc): indeed different taxes or charges lead to investment decisions where the charges are lowest, but this does not necessarily correspond with the location where plants are most needed for security of supply; different charges might also cause that less efficient plants with lower charges (with also higher CO₂ emission) are dispatched, instead of more efficient plants with higher charges (with lower CO₂ emission). Such distortions, existing unfortunately in many MS, lead thus to wrong investment signals.
 - In particular, we also welcome EC initiatives to strive for convergence between RES support schemes.
- It is also paramount for an attractive and appropriate investment climate to have a **long term view on how RES, CO₂ and energy efficiency objectives** will evolve post 2020.
- We encourage the EC to **accelerate the development of network codes** (congestion management rules, grid tariffs harmonization, transparency rules, etc) and the implementation of day ahead market coupling, cross-border intraday markets and cross-border balancing markets.
- Adequacy can be reached by “generation meeting demand”, but also by “demand meeting generation”: **favouring price responsiveness of demand** is paramount therefore (smart

³ We regret for instance that the Framework Guidelines for Balancing only set long-term ambitions for achieving integrated balancing markets : 6 years implementation time are suggested after adoption of the Network Codes, which will bring us around 2020 for this essential tool of market integration.

metering, electric vehicle plug-ins, promotion/rewarding of best practices for industrial processes, etc).

- We invite the Commission to set a framework for an efficient functioning of energy markets. In particular, one should create **acceptance that plant operators can freely exit** the market if plants are not longer profitable: this is essential to let energy markets work properly.
- Further **development/reinforcement of the grid infrastructure** with focus on global optimisation of congestion management, allowing a better capacity sharing to achieve adequate energy markets.

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

Complementary to, and coordinated with European actions, Member States should take the following steps:

- We believe that an adequate integrated European market needs in the first place some **minimum coordination on key parameters and minimum information sharing** (e.g. available cross-border transmission capacity at peak, mutualisation of short term operating reserve capacity, cross-border integration of balancing systems and compatibility of CRMs).
- Favours of price responsiveness of demand by deploying the adequate tools and incentives for the different customer segments (B2B, B2C). In particular, this requires the removal of regulated electricity prices in downstream markets.
- Avoiding regulatory or administrative measures which unduly distort market outcomes, e.g.
 - avoid price caps in energy markets because price spikes are needed to recover investment expenditures (at least in an energy-only market);
 - Free exit (decommissioning, mothballing) out of the power system for unprofitable units should be allowed.
- Integration of all generation assets in the market (RES and conventional) with the same obligations and rights.
- Creation of a regional/European level playing field on wholesale markets (harmonization of taxes, levies, grid tariffs, etc).

Although all mentioned points seem obvious, it is important to observe that achieving all these items will require a huge amount of time. Therefore, we invite MS to start immediately.

(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?

Public authorities can reflect the consumer preferences by:

- In general, regional/national authorities reflect preferences in relation to security of supply by setting a given adequacy standard.
- To reflect different preferences among consumers, Member States should facilitate price responsiveness of demand, allowing consumers to express their "willingness to pay" for not being curtailed when the demand/supply balance is tight. This can be achieved by

- The development of intelligent grid infrastructure (smart devices and grids, but also smart appliances might need further development)⁴
- The integration of participation of demand side management in different markets (e.g. short term operating reserve managed by grid operators, participation in short term market, etc.)
- Abolishment of price regulation (supply tariffs) that impedes incentives of demand to participate in the market.

(7) Do you consider that there is a need for review of how generation adequacy assessments are carried out in the internal market? In particular, is there a need for more in depth generation adequacy reviews at:

- a. National level
- b. Regional Level
- c. European Level

- As a general approach, generation adequacy reviews should be carried out at European level (considering the degree of cross-border interconnections) and declined to regional and national levels in order to come to an globally optimal adequacy;⁵ A national view has to be complemented by a consistent regional assessment; As a result, the added value of an analysis at national level can be limited in case of strong cross-border interconnections or local congestion issues⁶,
- There is an absolute need to increase the transparency with regard to applied methodologies and used data in order to increase the understanding of the adequacy assessments realized by the TSOs;
- Reviews in the past have considered demand as an exogenous element. On the contrary, demand response should be considered as an active contributor to generation adequacy via its possible price responsiveness.

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

Answer to question 8a:

- A multi-national/European approach is considered as more effective from a generation adequacy perspective (see also answer to question 7).
- Any generation adequacy analysis should be based on full TSO transparency and include market consultations.
- Some coordination between regional/national operators is needed to assess capacity sharing and availability of inter-regional transmission capacity in peak situations.

⁴ One should realize that facilitating an active "demand side participation" is a long term process: the decision making process on smart meters is still ongoing in many Member States, Cost Benefit analysis (CBA) for roll out needs to be positive, and the roll out will take time, the adaptation of customer behavior also needs time.

⁵ A "region" in this context can be a group of countries or a part of a country.

⁶ For instance, there is a lack of generation capacity in South of Germany while Germany as a whole has sufficient capacity.

Answer to question 8b:

- The methodology needs improvements because it was developed essentially before the EC RES-objectives were defined. As a result, the impact of RES-integration is currently not sufficiently considered (e.g. incompressible generation capacity, flexibility requirements, frequency control and reactive power needs).
- The ENTSO-E generation adequacy outlook has a **too static approach** and does not consider sufficiently the economic dynamics of liberalized energy markets. In particular, generation assets can be decommissioned for profitability reasons before their technical end of lifetime expectations.
- Generation adequacy reviews should also integrate downwards regulation issues (incompressible generation capacity) what is expected to occur more frequently in the future, as well as operational flexibility (need for increased ramp rates of the whole generation system).

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

- Overall, we believe that a review of the SOS Directive for Power will not be of immediate help for addressing generation adequacy, as all pieces of practical legislation and processes actually already exist or are under way to be developed.
- In pro of a possible review:
 - The Directive considers SOS as a Member State competency, although a regional/European approach is more effective. Therefore, more regional aspects could be integrated.
 - Recent developments could be integrated in the SOS directive, e.g. the role of ENTSO-E, ACER, although this is already integrated in the development of Network Codes.
 - Integration of power quality issues (instantaneous balance between power and supply)
 - Assessment of availability of black start assets and of exact requirements on gas availability for black starts.
- In con of a possible review:
 - To a large extent, the network code Operational Security is actually taking up the role of the SOS directive⁷: all these issues are treated in the Third Package and reduce strongly the need for a review.
 - The CACM Network Code, describing the aspects of capacity calculation, is fundamental for an adequacy assessment: more cooperation between TSOs (as it is foreseen in this CACM Network Code) is needed.
 - Moreover, the capacity calculation process (that also is looking at loop flows) is followed closely by a Stakeholder Committee to be established. This process will be complementary to the work established in the ECG (Electricity Coordination Group). We propose a closer collaboration between both (e.g. by having a representative of the Stakeholder Committee also attending the ECG meetings directly).

⁷ e.g. definitions of N-1, normal state, alert state, emergency state, reserve and ancillary needs in Load Frequency Control code, balancing network code, etc., this further completed with adequacy analysis, TYNDP analysis, ... :

(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?

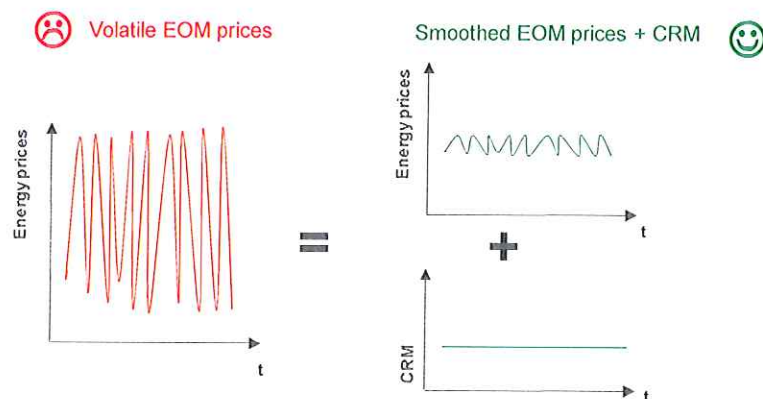
- Because of the “local generation” feature of power, the electricity sector is quite different from the gas-sector, where most of the energy has to be imported from outside the EU.
- Many provisions in the Gas Security Directive related to generation adequacy are already or will be integrated in the network codes Operational Security/ CACM code (see question 9).
- Risk assessment rules have definitely an added value in a generation adequacy assessment. However double use/work should be avoided with the work done under TYNDP and existing adequacy analysis.

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

- The EC objective being a European integrated market, generation adequacy should be analysed in a consistent way. However, generation adequacy standards do not necessarily need to be identical across regions, as regional preferences can be different (See also answers to question 6).
- Free-riding of some countries on the efforts done by other countries needs to be avoided, especially if inter-regional transmission capacity is large. An integration of those standards can be done on different levels, depending on their nature:
 - an improved ENTSO-E outlook
 - the electricity network codes, mainly OS and CACM
 - cross border regulation
- Security of Supply is left to Member State subsidiary, what makes it harder to impose European “standards”. Coordination at least on some key parameters has to be favoured.

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

- **Many different distortions currently exist** within and between markets, like different levies, taxes, or grid tariffs, price caps, etc. (see answers to questions 4 and 5).
- Those inefficiencies have to be addressed properly as fast as possible.
- **However, addressing these issues will not be sufficient.** As the system will be more and more dominated by intermittent renewables, GDF SUEZ believes that investing in a thermal generation plant is highly risky. Investment will not be attracted and all stakeholders will feel uncomfortable as a result with the outcome of the market (volatility).
- **CRMs are complementary to energy markets because they allow transforming volatile prices in more stable and predictable costs (for the customers) and revenues (for the investors). This will give more comfort to the different stakeholders (customers, politicians, regulators, investors).**
In this regard, it should be emphasized that a CRM is not a subsidy for power plants but a transformation of income flows.



- Hence, GDF SUEZ urges to consider CRM as a priority.

(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 highest system stress?

Answer to question 13a:

- The increased flexibility need in the power system is mainly due to the promotion of intermittent RES capacity.
- As the transition to a low carbon power system will require more intermittent RES, the flexibility and back up needs of the system will increase accordingly in the future.
- RES generation has reduced the margins for existing thermal units, in particular gas plants, although those units are needed in the system as back up.
- The energy market will give the necessary price signals for flexibility requirements. Electricity prices should give the right incentives to investors to invest in flexibility, if it is profitable to do so. This applies both for existing and for new capacity.

Answer to question 13b:

An EOM can ensure generation adequacy, provided that authorities do not intervene in the market and accept price signals. In particular, an efficient EOM functioning will imply

- High price spikes at times of high system stress in order to reward needed capacity.
- Increased risk as these price spikes are expected to become more random in the future due to the increasing intermittent RES in the system.

The market functioning of the energy-only market cannot ensure sufficient capacity if the price risk becomes too high for investors or if the price spikes become too large for being accepted by authorities. In that case, a CRM can solve the increased risk by "smoothing" the scarcity revenues.

We also emphasize that the design itself of the CRM is important in order to attract sufficient capacity in the system (e.g. choice of the required reserve margins, consideration of cross-border capacity, etc.).

(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?
- 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?

Answer to question 14a:

- We believe that the added value of a strategic reserve to support the transition from a fossil fuel based electricity system to a less CO2 emitting system or during a nuclear phase out is rather limited. It gives more comfort to the TSO in case of stressed situations, while it does not solve the problem of increased risk in the long run.

Answer to question 14b:

The risks for market distortions related to the introduction of strategic reserves are:

- The activation by the TSO of the strategic reserve at too low price levels, eliminating the necessary price signals for new investments, reducing the revenues of existing assets outside the strategic reserve system and introducing a "slippery slope" as a result.⁸
- In case of correctly activated SR, allowing the price signals for new investments, the increasing public/political pressure to activate them nevertheless at lower levels.

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

Answer to question 15a:

We believe that several mechanisms can be compatible and non distortionary with EOMs.

The adequacy of a CRM, and as a consequence its compatibility with the EOM, relies to a large extent on its implementation modalities.

Therefore:

- The CRM should be market conform and **avoid any discrimination** between technologies, actors and assets in order to reveal the scarcity value of capacity.
- The CRM should ensure that all capacities contributing to security of supply receive the **same remuneration for the same service and reliability**.
- The EU objective being an integrated European market, any mechanism should **respect cross border participation** in order to avoid competitive distortion and to achieve a least system cost.

Answer to question 15b:

We believe that well designed energy markets should offer appropriate opportunities (e.g. balancing markets) to ensure sufficient flexibility in the power system.

⁸ A slippery slope is a situation where a relatively small first initiative leads to a chain of related events culminating in significant unexpected effects. In this case, the unexpected effect will be the premature removal of all existing assets from the system for lack of profitability reasons.

Answer to question 15c:

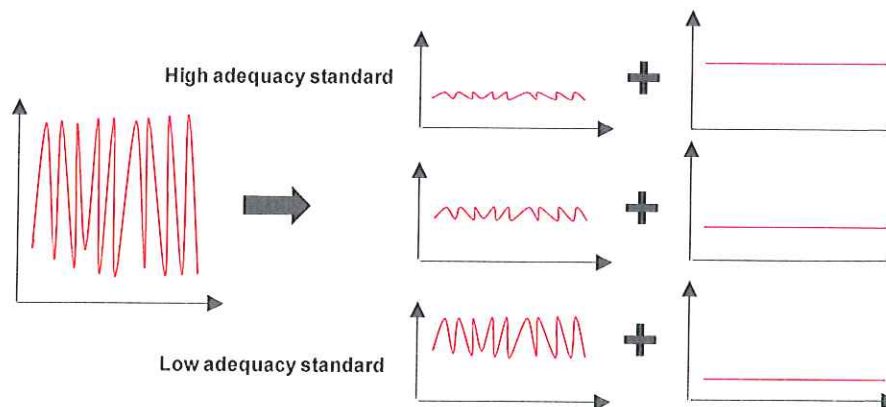
Following our answer to question 12, we believe that a CRM is needed to improve the investment climate and to give comfort to all stakeholders. **Therefore, a CRM is not needed to be reversible.** It gives the right price signals depending on the circumstances evolving with the system.

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

For a given adequacy objective, it can be said that:

- **Different models should imply the same system cost** (energy and capacity together): e.g. having low price caps in the EOM, for instance, will not reduce the system cost as the investors/generators will need compensation in the capacity market.
- A **regional mechanism** is normally less costly than a national one because it allows a better optimisation of the global system. Coordination is essential.
- With increasing intermittent renewables, uncertainty will increase. As a result, a system providing at least some stability (i.e. with CRM) to potential investors will reduce its overall cost, as it reduces the risk premium needed by investors (e.g. a duration of several years of guaranteed capacity payments for new entrants).

A higher adequacy standard will increase system costs (some plants are probably not used very often).



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

As mentioned in the answer to question 12, a CRM should be a complement to the EOM, including the forward, day ahead, intraday and balancing market. Therefore, generation units benefiting from a non-discriminatory CRM should be allowed to participate without any restriction or obligation in the different markets in order to optimise the power system as a whole. A CRM should only remunerate the availability of the plant, not the energy output of it.

Nevertheless, obliging CRM-supported capacity to participate in the balancing market would lead to must run obligations and, as a consequence, to further distortions in the energy market.

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

- The EC objective being a European integrated market, a blueprint for an EU-wide CRM would be an adequate measure to contribute to this integration;
- However, we think that a common European CRM is not necessarily required to ensure adequacy at least cost. **Coordination on key parameters/features might be sufficient.** The EC should assess the compatibility of adjacent CRMs and define minimum requirements for CRMs to be compatible with an integrated European energy market;
- CRMs are already implemented in some Member States and proposals are discussed in other countries. Therefore, **initiatives should be taken urgently.**
- Any CRM coordination initiative, affecting already implemented CRM models in different Member States, should not have any negative retro-active effect on existing CRM remunerations (e.g. a "10-year" guaranteed support for a plant in an existing CRM should be continued for that plant).

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

As mentioned before, the adequacy of a CRM is highly depending on its implementation features/parameters. Moreover, a regional/European approach is more cost effective than several uncoordinated national solutions. Therefore, **the development of a minimum set of key criteria to assess CRM compatibility is useful in order to avoid market distortions.**

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

- a. Should any criteria be added to this list?
- b. Which, if any, criteria should be given most weight?

Answer to question 20a:

The list of criteria developed by the European Commission seems appropriate. However we would like to highlight some comments to the proposed criteria.

- 1) *The necessity for a capacity mechanism should be clearly established in the context of:*
 - a) *The potential of the identified needs being met in the normal operation of the internal energy market, in particular:*
 - i) *increased interconnection and in particular the completion of identified projects of Common interest.*
 - Additional transmission lines facilitate energy flows between markets and will facilitate integration of intermittent RES in particular. This will contribute to mitigate price volatility.
 - However, even in a copper plate situation, price volatility will remain and thus also the associated investment risk. Therefore, CRM remains an additional tool.
 - Also the cost of building new grid infrastructure should be balanced against investments in generation capacity.
 - Finally, building new transmission lines has a time issue. Many important interconnection projects have been announced in the TEN-E regulation, only limited projects are achieved so far. The Project of Common Interest (PCI) process proposed in the new Infrastructure Package is an important improvement, and will help the realisation of highly needed projects to achieve the 3 pillars (RES, IEM and SOS).

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

The EU target being a European integrated market, the position of a player in a local market is not relevant. CRMs should not address dominance issues: we believe that European and national legislation contain sufficient provisions to deal with uncompetitive behaviour of actors.

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

One should carefully make distinction between energy efficiency and demand response. The first one refers to the firmness of the capacity (a kind of "permanent" elimination of energy need, comparable to a new power plant that could deliver "permanently" energy), while demand response refers to the flexibility of the capacity (a short term reaction comparable to the availability of an open cycle to ramp up).

Energy efficiency and demand response are fundamental drivers for a sustainable power system because they lead to an optimal balance of the system in terms of social welfare. Therefore they must be promoted, whether a CRM is implemented or not.

Nevertheless, energy efficiency and demand response should not be considered as "alternatives" for a CRM. On the contrary, **a properly implemented CRM can be an efficient tool to attract demand response to the system**, e.g. by putting demand response incentives in the pass through of the CRM cost to end customers.

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

As mentioned in previous question, demand participation in the energy market must be considered as key.

Nevertheless, the EC should avoid to attract demand participation in the energy market, based on out of market measures distorting the market (as this is the case for RES), but on a level playing field where the same services get the same remuneration. In this respect, we stress that demand response, having a limited number of interruptions, doesn't offer the same service as a generator that is available most of the time, e.g. energy efficiency and demand response cannot function as backup facility for intermittent RES.

We believe that a well designed and well implemented energy market offers appropriate diversified opportunities (via balancing market, intraday market, day ahead market) to attract effective demand participation in the market taking into account the demand flexibility characteristics. Moreover, as mentioned in the answer to the question 20 1b, a properly implemented CRM can be an efficient tool to attract demand response to the system.

2) The effectiveness of the capacity mechanism addressing the identified market failure should be demonstrated and that it is additional to what would have occurred under normal market rules.

As mentioned already before, the effectiveness of a CRM relies to a large extent on its implementation and design. See also answer to question 12.

3) The duration of the application of the capacity mechanism should be clearly limited and clearly specified,

- a) *The impact on the market of the introduction of capacity mechanisms should not make it difficult to reverse that decision in the future.*

Following our answer to question 12, we believe that a CRM is needed to improve the investment climate and to give comfort to all stakeholders. A CRM is not needed to be reversible as a result. It gives the right price signals depending on the circumstances evolving with the system.

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

A permanent monitoring on the well implementation of the CRM is recommended.

Review of a CRM is possible in particular in order to align different models in different Member States.

Any CRM coordination initiative, affecting already implemented CRM models in different Member States, should not have any negative retro-active effect on existing CRM remunerations (e.g. a "10-year" guaranteed support for a plant in an existing CRM should be continued for that plant).

It is important to have sufficient consultation with all stakeholders before implementing any (changes to an existing) CRM model.

- 4) *Any capacity mechanism should be open to electricity undertakings operating in other Member States, to the extent they are able to make the electricity available in markets to which the capacity mechanism is established.*

There must be a level playing field between capacities offering the same capacity service to a Member State, independently whether that capacity is located within that MS or not.

A market participant selling capacity to a neighbouring market should in principle follow the same rules (rights and obligations (like plant availability, ...)) as market participants located inside the country with the CRM market. This way, excess of generation capacity from a neighbouring country would be able to compete in the CRM market, ensuring an outcome at least cost. The process needs at least some coordination in order to avoid "double" selling of capacity (to the home market and to the neighbouring market).

- 5) *Any capacity mechanism should not act as a barrier to cross border trade or competition in the internal market by:*

- a) *artificially altering trade flows or the location of production, in particular by:*

- i) *restricting the ability of electricity undertakings in the Member State to sell their electricity to customers elsewhere in the internal market, (i.e. capacity physically located in a Member State should not be reserved for that Member State).*

We agree. See previous statement.

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

A CRM is complementary to an EOM. It improves the EOM, not distorts it.

Therefore, any power plant must always have the possibility for optimisation and, as a consequence, to decide freely when to produce.

In order to proof the availability, additional non market distorting reliability criteria should be installed.

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

One of the key features of a CRM is that it can include efficient locational incentives. Nevertheless, in order to minimize market distortions, CRMs should be coordinated between neighbouring countries in order to come to an overall optimal adequacy.

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

At least some coordination between MS is needed.

At the same time, the EC should foster an attractive, stable and non distorting investment climate between MS, based on a level playing field (different taxes, levies, grid injection tariffs, ... are to be avoided).

- b) *distorting dynamic incentives/crowding out;*

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

OK.

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

OK, but there must be a level playing field between capacities offering the same service, meaning that the same requirements should be applied for demand as for generators when they receive a remuneration. Therefore, appropriate reliability criteria should be installed.

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

Moreover, as mentioned in the answer to the question 20 1b, a properly implemented CRM can be an efficient tool to attract demand response to the system.

- c) *creating market power or exclusionary practices;*

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

The EU target being a European integrated market, the position of a player in a local market is not relevant.

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

A CRM must be implemented in an environment based on a level playing field for all actors and assets, without competitive distortions, neither by positive discrimination nor by negative discrimination.

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

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

A CRM must respect free market rules in an environment based on a level playing field for all actors and assets.

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

See also our comment to criteria 1 b).

There should be no discrimination between capacities for so far they offer the same characteristics and reliability.

Nevertheless, we believe that a well designed and well implemented energy market offers more appropriate opportunities to attract demand response (e.g. too low price caps in energy markets will discourage demand response).

- 7) Not be confined to any particular generation technology, i.e. being tech. Neutral (insofar as the mechanism is directed towards security of supply concerns – this may not apply if other objectives are also being pursued).*

There should be no discrimination between capacities as long as they contribute to the goal of generation adequacy. There will be an auto-selection of technologies if penalties for unavailability in times of high stress.

Concerning the pursued objectives, we believe that CRM objectives should be limited to generation adequacy objectives.

- 8) Capacity mechanism should be at least cost:*

- a) The direct costs imposed on suppliers or others electricity undertakings must be kept to the minimum necessary.*

For a given adequacy objective, A CRM must aim for the most cost effective solution. See also answer to question 16.

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

Allowing sufficient competition for the supply of capacity will avoid overcompensation. Issues of imperfect competition can be addressed by existing competition policy.

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

A CRM must respect free market rules in an environment based on a level playing field for all actors and assets.

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

To be effective, a CRM must offer a minimum stability in time, especially for new investments.

- 9) Costs associated with capacity mechanisms should be allocated to the beneficiaries of secure energy supply with different classes of consumers being treated in a non-discriminatory way.*

It is not always clear who are the beneficiaries of and who are the contributors to security of supply and to which extent security of supply should be socialized.

It should be pointed that customers can on their own contribute to the adequacy via demand response participation (to an extreme, customers that do not care about generation adequacy should simply declare themselves interruptible at any moment for “free”). Anyway, one should avoid “overcompensation” for generators as well as “double discount” for customers.

Answer to question 20b:

We consider the following criteria as the most important:

- **Offer an attractive, stable and predictable political/regulatory framework**, fostering investment confidence
- Ensure **long term revenue stability** for generators (stable and predictable source of revenues during sufficiently long contract period) in order to guarantee a fair remuneration of investments in an industry characterized by boom and bust cycles with an increasing share of intermittent RES generation (need for standby capacity) and decreasing (residual) electricity demand.
- **Coordinate/harmonize between highly interconnected countries and regions**
 - coordinated/harmonized systems (ultimately a single system) for linked markets are considered as the most sustainable solution (avoiding market distortions that lead ultimately to security of supply issues)
 - Take locational shortages into account if necessary
- **Install a market wide system, including existing units**
 - Stimulating lifetime extension of existing units is in general more cost effective than stimulating new capacity
 - Including existing units avoids remuneration of new units for their full lifetime (after a certain period a new unit becomes an existing unit)
 - Avoid a CRM exclusively for new capacity: this type of “out-of-market” capacity, participating in the energy-only market, will lead to market destruction (“slippery slope”).
 - No discrimination should be made between capacities offering the same system requirements. Therefore, appropriate reliability criteria should be installed.
 - No discrimination should be made between operators (local incumbents / new entrants).