

EFET¹ contribution to the sector enquiry on capacity mechanisms (Case No COMP/HT.4624)



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The European Federation of Energy Traders (EFET) thanks the European Commission for the opportunity to provide expertise and input on the subject of capacity remuneration mechanisms (CRMs) in the context of the sector enquiry launched by DG Competition.

Detailed questionnaires have been sent to individual market participants, Member States, regulators and TSOs, no official request was sent to European representative organisations like EFET. Following our conversation of 8 June 2015, we nonetheless understand that your services would welcome the input of our organisation, albeit not necessarily in the strict format of the questionnaire circulated to the above-mentioned parties.

The purpose of this contribution is to provide guidance to DG Competition in its analysis of individual market participants, Member States, regulators and TSO responses to the official questionnaires circulated to the above at the end of May 2015. Experience from discussions on CRMs within EFET and with other parties has shown us that keeping those debates at individual company or Member State level may lead to losing the European perspective, which would risk negatively affecting the well-functioning of the internal energy market, to the detriment of end-consumers at European level.

In our response below we highlight some of the points we deem most critical to scrutinise CRMs where they are being considered or actually put in place. We also try to provide examples of best practices or – possibly hidden – contraventions to the European Commission standards on CRMs detailed in the 2014 European Commission Recommendation².

¹ The European Federation of Energy Traders (EFET) promotes and facilitates European energy trading in open, transparent, sustainable and liquid wholesale markets, unhindered by national borders or other undue obstacles. We currently represent more than 100 energy trading companies, active in over 28 European countries. For more information, visit our website at www.efet.org.

² European Commission 2014 Communication on Progress towards completing the Internal Energy Market, available at: http://ec.europa.eu/energy/sites/ener/files/documents/2014_iem_communication_0.pdf

We also include our analysis on the adequate way to ensure a competitive and level playing field at EU level in the energy market. We consider these elements essential to ensure that Capacity Mechanisms are not considered as a substitute to the Internal Energy Market, but also to ensure full competition, cost efficiency and ultimately adequate protection of end customers.

Finally, we also observe that certain schemes, not necessarily labelled as “capacity mechanisms” are also being introduced and may have equivalent effect as capacity mechanisms, such as of “strategic reserves”, “procurement of balancing resources”, “flexibility reserves”, “grid reserves” or other forms of targeted mechanisms towards specific technologies or objectives. These may be introduced to address system adequacy objectives or specific market needs such as flexible response, but should be scrutinised in the same way in terms of competition and potential cross border restrictions.

I. Identifying and differentiating capacity adequacy and flexibility needs

With significant changes in power generation patterns – notably increased penetration of renewable energy – and the slow emergence of demand-response capabilities, the debate around CRMs, especially in the past couple of years, has become quite confused. **While CRMs were originally intended to ensure the adequacy of generation, demand and storage capacities, some proposals have introduced elements that are obviously driven by an objective of rewarding, directly or indirectly, the flexibility of certain assets or to “save” stranded flexible assets. We believe it is of utmost importance to differentiate the two concepts:**

- **Capacity** is the ability (or option) to deliver or off-take (sell/buy) electrical energy/service provided by an asset (generation, storage, DSM), a group of assets (portfolio)
- **Flexibility** is the ability to use/exploit capacity as defined above to match system needs with limited constraints – thus flexibility is a characteristic of capacity

1. Capacity adequacy

a. Assessing capacity needs

At the level of advancement of the internal electricity market we have reached since the early days of liberalisation, market participants in their vast majority are active across bidding zones – and country – borders. The advent of day-ahead market coupling, progress on the development of integrated intraday and balancing markets, and the expected issuance of firm forward transmission rights at all bidding zones borders across all parts of Europe means that electricity markets can no longer be looked at through a strictly national prism.

While security of supply formally remains a national competence, we believe that adequacy planning, system operations and security of supply questions are highly

interlinked and need to be tightly coordinated across borders. The current 'national approach' that still prevails in many capitals, while reflecting the current state of cooperation in terms of security of supply, could arguably lead to an overall over-procurement of capacity if Member States do not appropriately take into account what capacity could be reliably considered as a contribution to local adequacy across borders through the energy-only market, thanks to fully firm volumes of interconnection capacity rights guaranteed by TSOs for the efficient use of the market coupling optimisation (with no market suspension, curtailment or restriction).

A common approach to assessing system adequacy will contribute to ensuring supply security more efficiently across and within bidding zones borders as it will effectively pool resources over a wider area. We call for a true adequacy assessment to be completed at a pan-European level, as pledged by the signatory governments of the recent Joint Declaration for Regional Cooperation on Security of Electricity Supply in the Framework of the Internal Energy Market³.

The ENTSO-E Security Outlook and Adequacy Forecast reports are also a concrete first step in the direction of such a European approach to adequacy assessment. However, the reports so far only consolidate the analysis of individual TSOs for their respective control area/country. Market participants still expect a truly European adequacy assessment from ENTSO-E, with the support of governments and regulators.

Adequacy assessments should also better take into account market design evolutions that affect the ability of control areas/countries to count on each other to ensure security of supply. On the one hand, elements such as the new flow-based calculation for capacity allocation in day-ahead, in place in CWE countries since May 2015, and intended to improve the use of interconnections, can help Member States count more on each other to ensure generation adequacy across borders, provided that PTDF factors or other so-called 'adequacy patches' are not used to constrain market results. On the other hand, market circumstances that lead generation capacity to leave the market prematurely due to the emergence of a vast amount of subsidised, out-of-market generation capacities cannot be considered as not having an impact on the market if they negatively impact cross-border solidarity of Member States for supply security.

In this context we invite DG Competition to analyse responses to the questionnaires in relation to adequacy assessments with great caution. In particular, specific attention should be paid to whether TSOs and Member States have taken the necessary commitments to allow respondents to appropriately take into account the contributions of neighbouring control areas/countries to local adequacy in their own zone, as well as the influence of other developments having a sizeable effect in terms of cross-border security of supply.

³ See the Joint Declaration at: <http://www.bmwi.de/BMWi/Redaktion/PDF/J-L/joint-declaration-for-regional-cooperation-on-security-of-electricity-supply-in-the-framework-of-the-internal-energy-market,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>.

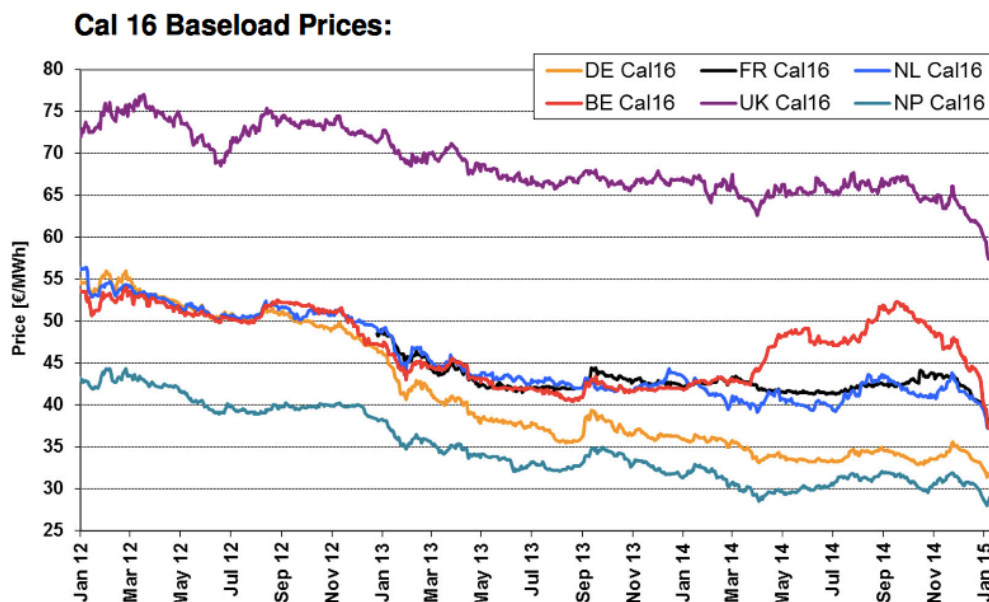
b. Levels of capacity adequacy

According to the ENTSO-E 2014 Security Outlook and Adequacy Forecast report⁴, “generation adequacy is expected to be maintained during the entire forecast period (in Scenario B and Scenario EU20, and in each reference point), however with a considerably decreasing margin level in the 2020s. It must be noted however, that under conservative Scenario A, at the winter reference points at and beyond 2020, the level of adequacy becomes negative, underlining the need for further investments compared to what is confirmed today”. As mentioned above, the ENTSO-E report so far only consolidates the analysis of individual TSOs for their respective control area/country, meaning that their analysis is to be read with caution.

According to market participants and many observers, most EU Member States currently have significant over-capacity in generation compared to demand under normal market conditions. Different causes can explain this situation including the economic crisis that has led to decreasing demand while vast amounts of new capacity, mostly in the form of renewable energy (RES-E) were built as part of subsidised climate action policies at EU and national levels.

Two good indicators of the current overcapacity situation are the forward electricity price curve and the margin spreads. These largely do not yet signal the need for new build.

The graph below shows that the price curve for baseload calendar products for the year 2016 have consistently declined over the past three years⁵:



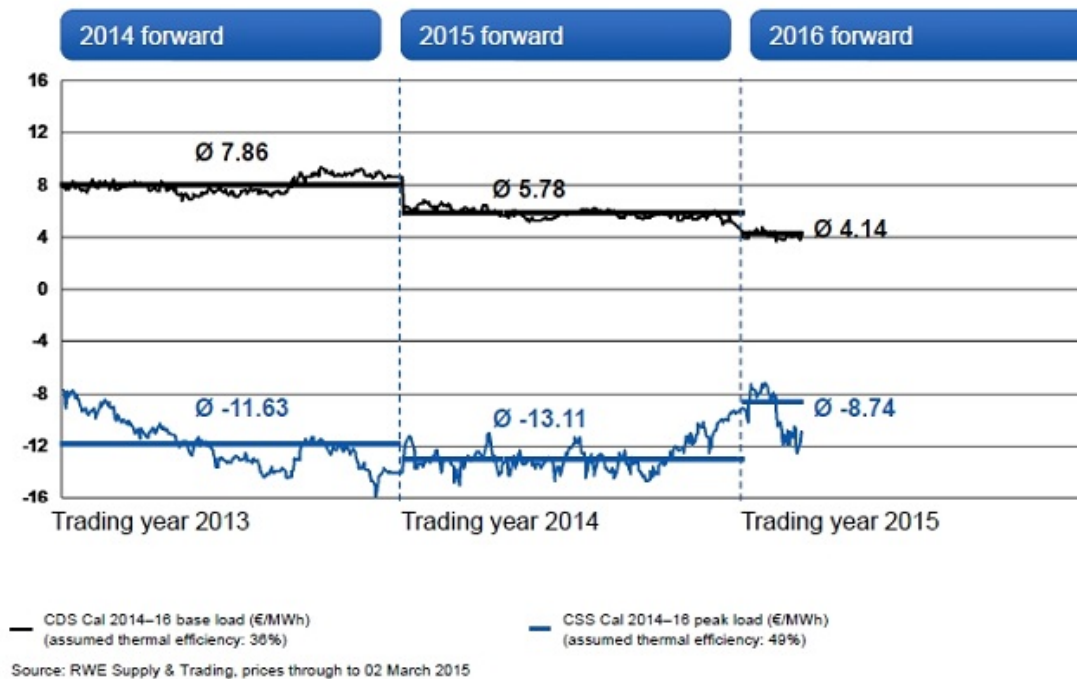
Source: RWE Supply & Trading

⁴ Scenario Outlook & Adequacy Forecast 2014-2030, available at:

https://www.entsoe.eu/Documents/SDC%20documents/SOAF/141031_SOAF%202014-2030_.pdf

⁵ In Belgium, the forward price curve has temporarily gone up between March and October 2014 as a result of the announcement of the suspension of two nuclear reactors following security concerns. The forward price curve went back to the level of its direct neighbours after the announcement that the reactors would likely restart in the course of 2015.

The graph below shows the German clean dark spread and the clean spark spread (margin of running respectively a coal power plant and a gas-fired power plant, taking into account the price of CO₂ emissions), signalling that gas-fired plants are largely out of the money, i.e. in over-capacity:



Source: RWE Supply & Trading

c. Letting the market signal potential capacity adequacy problems

EFET believes that prices should reflect the reality of supply and demand in a transparent manner. In this perspective, governments, regulators and TSOs need to improve market arrangements to allow a free formation of prices where offer meets demand so that the energy market continues to provide the adequate signals for the use and need of each type of product.

Increasing the efficiency of the market will improve price signals in wholesale markets during episodes of scarcity. Making the market more efficient and sharpening market prices will not translate into higher prices overall. It will allow prices to better reflect demand and supply and temporary price spikes will be absorbed thanks to better usage of resources across borders and market participants' hedging of their market risks.

Direct, no-regret measures to improve the match of supply and demand include:

- the removal or adaptation of price caps and floors closer to the Value Of Lost Load (VOLL)
 - ⇒ Most EU countries still apply caps and/or floors to electricity prices, whether through legal/regulatory requirements – e.g. – or applied by power exchanges – typically +3000/-500 EUR/MWh in NWE. In Spain, a price cap is set at 180 euros/MWh for day-ahead and intraday markets
 - ⇒ Signatory governments of the Joint Declaration for Regional Cooperation on Security of Electricity Supply in the Framework of the Internal Energy Market has pledged to get rid of price caps – this declaration however still needs to be implemented
- the guarantee that market participants will not be unduly constrained to bid in the market at high prices in times of scarcity according to existing market rules and in compliance with market abuse legislation
 - ⇒ Market participants may feel or be constrained to offer at high prices in times of scarcity because of the perceived risk that competition authorities might label such prices as abuse of market power.
- the removal of exit and entry barriers
 - ⇒ Although the low or even negative spreads in the pictures above show that some plants should leave the system, many licensing requirements still remain, especially in Central and Eastern Europe, preventing equal access or withdrawal of companies to/from these markets, as example we can cite in particular for preventing free exit the markets of Spain, Germany and Belgium
 - ⇒ The BNetzA “winter reserve” and rules on “grid relevant” plants may impose certain restrictions on market exit by forcing companies to maintain power generation operations; restrictions to both decommissioning and mothballing in Southern markets are a clear exit barrier
- the swift entry into force of more efficient capacity allocation solutions
 - ⇒ CACM and FCA codes must ensure that forward transmission rights and day-ahead markets are fully firm – this is currently not the case at any borders in Europe in case of Emergency Situations. Examples of “preventive” cross-zonal capacity curtailments by TSOs also exist – e.g. the preventive curtailment at the Northern Italian borders on eclipse day (20 March 2015) that saw a pre-emptive reduction from 7620 MW to 1000 MW of interconnection capacity
 - ⇒ Forward transmission rights are still not allocated to and between all bidding zone borders of Nordic countries
 - ⇒ Flow-based market coupling should be further improved (e.g. justification or removal of so-called external constraints, PTDF factors or other so-called ‘adequacy patches’ should not be used to constrain market results) and extended beyond CWE to CEE with a harmonised methodology,
 - ⇒ System ramping constraints imposed on cross-border flows between the Nordic and continental markets should be removed as they do not

reflect an optimised calculation process on real system constraints, in particular when TSOs from the Nordic subcontinent claim that reservation of cross-border capacity (by the TSOs) would increase the social welfare – such constraints are supposed to allow the supply of flexibility to continental Europe, while apparently ramping rates need to be reduced in the day-ahead and intraday timeframes

- the open access to cross-border intraday trading, with intraday gate closures times closer to delivery and allocation methods allowing market participants to book the necessary capacity to trade across borders and to match their needs:
 - ⇒ The granularity of nomination of cross-border flows should be improved in intraday – this is only possible at an hourly granularity at almost all bidding zones borders concerned by the enquiry and therefore still widely inconsistent in some bidding zones with the balancing period and with the traded products which exist within bidding zones
 - ⇒ Cross-border gate closure time should not be further than one hour away from real time, and coordinated with local intraday gate closure time – this is still not the case at the borders of Belgium, Ireland, Italy, Spain
 - ⇒ Explicit access to cross-border intraday capacity should be ensured until the full Target Model (implicit continuous access via a common trading platform) is in place – this is still not possible at among others the Belgian borders
 - ⇒ TSOs should not take responsibility for balancing for a period longer than one hour after an event or disturbance in order to let the market react
- the integration of RES into market mechanisms including full exposure to imbalances
 - ⇒ Legislation to impose balancing responsibility is making its way in many Member States – however, looking at the total volumes of RES injections in Europe, exposure to imbalances of RES producers remains an low, and mostly on a voluntary or subsidised basis, as exemption from balancing responsibility in existing contracts has been grandfathered in legacy contracts
- the improvement of clarity in the rights and duties of TSOs in times of scarcity especially in case of scarcity situations in several markets: reduction of import/export capacities shall never be allowed for reasons of balancing demand and supply
 - ⇒ Rules of procedure in that regard are currently unclear and remain unclear in the Network Codes/Guidelines drafted by ENTSO-E (with systematic reference to the non-defined concept of “Emergency Situations”), leading to country-centric approach to supply security
 - ⇒ Unclear conditions still exist in Member States and have not yet been harmonised at European level with regard to the conditions triggering market suspension
 - ⇒ TSOs must improve coordination, especially at regional level, and have clear rules with regard to reciprocity requirements in scarcity situations

Most of these measures are part of European legislation or have been promoted by the European Commission in various Recommendations on the internal energy market. They will encourage better liquidity and greater competition in order to deal with both risk and market power. EFET believes that decision makers should focus on improving the design of the energy market to ensure all types of capacity are properly used and valued. At the heart of this is to ensure that energy is allowed to move freely across borders, with minimum impediments so as to boost efficiency and maximise the benefits of competition. During times of system stress, prices should be allowed to rise to reflect the value of scarcity; similarly, when energy is in abundance prices should be allowed to fall (and even go negative) to reflect the value of displacing that generation. While competition law should be fully implemented to avoid abuse of market power, market parties should not feel unduly restricted to offer at high prices in times of scarcity.

We encourage DG Competition, when applying necessity tests in the course of its inquiry, to strictly analyse whether the above-mentioned measures have been activated in the various Member States. The decision to establish a capacity mechanism should not be considered a substitute for a well-functioning energy market. A capacity mechanism can only be a complementary element of market design, in order to give the right incentives to the generation, demand or storage capacity that is needed to ensure the adequacy of the system.

2. Flexibility

As mentioned above, flexibility is the ability to use/exploit capacity to match system needs with limited constraints. Such constraints can be of regulatory, commercial, operational, technical, or contractual nature. Flexibility can bring added value to the system when flexibility is needed. Especially in the time frames from day-ahead to balancing, the market should be able to set the correct value of flexibility. This requires better-integrated and less restrictive market functioning, and full access to cross border capacity in the forward, day-ahead, intraday and balancing markets.

At the moment, the market tends to suggest that there is currently sufficient flexibility in the system, and that the value for flexible products remains low.

If the share of intermittent RES further increases, this doesn't mean that the need for flexibility will greatly increase. In any case, the energy market will reflect the stronger or weaker need for flexibility, and the further integration of markets across Europe would improve competition and more efficiently use the adequate flexibility resources. Market participants will invest in increasing the flexibility of their portfolio as soon as they see a business case signalled by the market. If the Energy Only target model is fully implemented, and constraints to reward flexibility are therefore removed, flexible capacity will be rewarded by the market without there being any need for support mechanisms.

We urge DG Competition to closely scrutinise the objective(s) of any existing or planned capacity remuneration mechanism – or equivalent and otherwise named schemes – and reject elements incentivising the emergence of specific types of capacity intended to match the country's/control area's flexibility needs, something the internal energy market is able to value without unnecessary State intervention.

II. Design recommendations for capacity remuneration mechanisms

If CRMs are put in place, complementary to a well-functioning energy market, they should at least adhere to the following key principles:

- demonstrably enhance system adequacy;
- ensure that capacity prices be the result of competitive process;
- avoid distortion of energy prices;
- not be subject to price regulation;
- allow for trading of capacity products;
- facilitate an active demand side and promote wide consumer engagement through willingness to pay for reliability and/or price stability at different time horizons;
- be non-discriminatory, by taking into account the contribution of non-national generation through interconnection which may decrease local needs;
- be non-discriminatory between new and existing facilities and between different technologies;
- minimise centralised management processes and maximise the scope for independent decisions by market participants about their off-take and delivery obligations, so that market dynamics have a chance to function;
- minimise risk of regulatory failure and of need for redesign (e.g. by avoiding overly complicated mechanisms).

To analyse the compliance of different models of existing capacity mechanisms with the above-mentioned criteria, we have prepared the table below with the examples of the United Kingdom, France, Italy and Belgium:

		UK – central auction model	France - capacity certificates market	Italy - reliability option	Belgium - Strategic Reserve
	Short description	<i>A centralised scheme in which the total required capacity is set in advance of supply and procured through an auction</i>	<i>Obligations on suppliers to supply, contract or decrease their obligation for capacity certificates, representing capacity volumes available for cold winters, with penalties for non-availability and with a decentralised bilateral market for capacity certificates</i>	<i>An auction-based system in which the auctioned product is a reliability option contract. Generators (sellers) may participate to capacity auctions (descending clock). Awarded Generators receive a premium payment and are obliged to submit offers in Day ahead and Balancing markets. Generators have to pay the difference between the spot price and the strike price, if positive. The strike price is defined based on standard variable cost of an efficient peak plan.</i>	<i>A tender is organised to attract capacity to ensure adequacy. However, plants leaving the system are obliged to participate in this tender.</i>
1	Enhance adequacy	<p>The ability of the mechanism to enhance adequacy is only as good as policy makers ability to forecast capacity adequacy (and any shortfall thereof)) and put in place sanctions that ensure it is delivered.</p> <p>The target for capacity is centrally calculated based on assessed VoLL and CONE.</p> <p>However, errors in these assessments can result in over (or under) capacity. In addition, the relatively loose sanction system, whereby penalties are related to income, rather than reflective of the value of the</p>	<p>Designed for this purpose. The approach is targeted to ensure that sufficient capacity is available also for cold winter periods.</p> <p>The existence of a cap on imbalance penalties acts as a cap on the price of capacity.</p>	<p>Yes. Target capacity is defined by Terna on annual basis, as a function of VOLL, LOLP and variable costs of marginal technologies. A yearly demand curve is defined for any relevant area.</p>	<p>Subject to sufficient capacity offered to the tender, adequacy should be ensured.</p>

		capacity to the system, risks that capacity may not actually be delivered.			
2	Market-based capacity pricing	Yes. Auction mechanism is market-based.	Yes. Capacity certificates can be traded on exchange – as per recent announcements of EPEX Spot – and bilaterally.	Yes. Reliability option purchased based on auctions.	Partly. For plants leaving the system, the offer is evaluated by the regulator, and if considered not acceptable, a value can be imposed.
3	No distortion of energy market	Distortive effects are quite likely as the delivery model will affect the “normal” dispatch conditions from the energy-only market. Unclear. Does the penalty regime have some distortive effect?	Distortive effects are not too likely as capacity certificates are traded separately from the energy market and with no “activation clause” (certificates represent “available capacity” only).	Distortive effects are quite likely if the strike price is set too low (compared to the cost of the most expensive marginal plant); in that case, one will dispatch these plants too often and force them in the system as a kind of must run.	The strategic reserve is out of the market, and is only dispatched for economic reasons to the amount of not satisfied demand at 3000€/MWh after the day-ahead clearing, or for technical reasons (in real time) when some criteria are met. Imbalance prices are forced at 4500€/MWh when strategic reserves are dispatched.
4	Non-regulated capacity prices	No. A price cap of £75/kW applies.	No. The administratively set price for capacity imbalances means a de facto price cap (< 40 €/kW).	No. A maximum and a minimum premium will be defined.	No. Plants leaving the system can be imposed (via royal decree) a capacity remuneration if the offer is not deemed acceptable by the regulator
5	Allow for trading of capacity products	Yes – but limited.	Yes.	Unclear at the moment.	No, not applicable.
5	Demand-side participation	Yes.	Yes.	No, initially the demand side cannot participate. DSM will initially be considered in a stochastic manner. Participation is foreseen	Demand is invited to participate, and aggregators have entered in this market segment

				for the future.	
6	Cross-border participation	<p>Not for first auction (2014), Interconnectors, though not a direct provider of capacity, will be able to participate from 2015.</p> <p>A more durable and credible framework for direct participation of foreign capacity providers is required, but is challenging from a design perspective.</p>	<p>Not in the first phase but additional consultation on cross-border participation planned for summer 2015.</p> <p>A more durable and credible framework for direct participation of foreign capacity remains a challenge from a design and political perspective.</p>	<p>No, in the first phase generators abroad cannot participate.</p> <p>The cross-border contribution is considered within the offer curve on a stochastic manner.</p>	<p>This is not foreseen, and not relevant, because the strategic reserve is only dispatched after day-ahead closure (the import capacity is then considered as saturated).</p>
7	Equal treatment new and existing, technology neutral	<p>No. Different treatment of new and existing capacity. Long duration (15 year) contracts for new capacity mean some preferential treatment (vs 1 year contracts for existing). And existing capacity acts as price taker. Moreover, eventually all existing plants will be closed and all capacity will be under 15 year capacity contracts. And the yearly capacity auction, will be no longer market-wide, but will only cover the additional capacity that is expected to be needed.</p>	<p>Mostly. However, intermittent generation capacity is discounted based on a decision from the regulator through an availability quota.</p>	<p>New and existing technologies can participate.</p> <p>But there is a segment of this CRM dedicated to flexible technologies, i.e. it is not technology neutral.</p>	<p>Nuclear is excluded; new assets cannot contribute (as they have to announce a closure first).</p>
8	Minimise centralised management	<p>No. Strongly centralised. Target for capacity is set centrally.</p>	<p>Only partly. The regulator defines certificates obligations based on consumption</p>	<p>No. Centralised mechanism. Capacity target defined centrally, as well as the strike price.</p>	<p>No. The system is fully centralised (tender, operation).</p>

			<p>needs. It is for every supplier to manage its own obligation in terms of position forecast and procurement/ hedging. Transparency is key for the success of such rather decentralised model. The current design lacks a sound framework for transparency. This CRM requires strong central involvement.</p> <p>The imbalance penalty cap (decided by CRE) acts de-facto as a centralised price cap on capacity.</p>		
9	Minimise risk of regulatory failure	Different auctions, and different treatment of new and existing capacity entails some risk for regulatory failure.	Relatively complex system, risk of regulatory failure.	It is a central steered mechanism; there is risk of regulatory failure.	Free exit is not allowed, and the remuneration is under regulatory control.