



**EVOLUTION OF
THE SET OF RULES
FOR INCORPORATING
CROSS-BORDER
INTERCONNECTIONS
OF THE EUROPEAN
ELECTRICITY TRANSMISSION
SYSTEM INTO THE FRENCH
CAPACITY MARKET**

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EXECUTIVE SUMMARY

Context

France has had a capacity mechanism since 1 January 2017 to ensure its security of electricity supply. From its creation, this mechanism was designed to take into account the interconnection between the French power system and other European countries, and the contribution that these bring to the French security of supply. This contribution was firstly taken into account implicitly, by deducting France's capacity needs, but with no explicit valuation made. Several years ago, discussions

were initiated on how to take cross-border participation in the capacity market further, giving France a pioneering role on this subject. In 2014, RTE was mandated by the Minister in charge of Energy to conduct a first consultation of market participants in France, in order to:

- ▶ to develop concrete models of explicit cross-border participation in the French capacity market;
- ▶ and start a long-term reflection on regional cooperation in this field.

Since 2014, RTE has led three consultation sessions on this theme.

Box 1. Description of the major principles of the cross-border participation solution approved by the European Commission

The cross-border participation solution approved by the European Commission in its approval decision of the French capacity mechanism is based on two alternative participation processes. If a cooperation agreement is entered into with the transmission system operator counterpart(s) of the neighbouring country then the more advanced solution for cross-border participation is implemented on this border for a delivery year of the given capacity mechanism. If such an agreement could not be signed, then the simplified cross-border participation solution is implemented.

Before dealing with each border, RTE must calculate the overall value of cross-border contributions to security of supply in France, and to propose allocation of this value by border¹.

If the more advanced solution of cross-border participation at a border is implemented, for example with neighbouring country A, a certain amount of interconnection tickets for access to the French capacity mechanism are auctioned to cross-border generation capacity and demand response operators. This volume of tickets is consistent with the allocation of the overall value of cross-border contributions by border, as mentioned above. Foreign operators who successfully procure these tickets may then participate in the French capacity market in the same way as any capacity operator in France.

If the streamlined solution of cross-border participation on a border is applied, for example with neighbouring country B, the interconnections linking France with adjacent country B are certified at a volume also consistent with the overall value of cross-border contributions by border. The interconnections are then processed in a similar manner to French generation/demand response capacities.

1. In February 2018, RTE shared with the Member States of the European Union its assessment of the contribution of its various borders for the delivery year 2019. The assessed contributions are the following: France - Belgium (272 MW), France - Germany (1733 MW), France - Spain (1969 MW), France - United Kingdom (1386 MW), France - Italy (959 MW).

This work on the national level was the basis for discussions with the European Commission as part of the in-depth investigation on the French capacity market, launched at the end of 2015. In their proposal to the European Commission, the French aim to deploy a practical solution for explicit cross-border participation in France in a gradual manner, starting in delivery year 2019. This solution is consistent with feedback from market participants during the consultation in France as well as with the Commission's Report of the Sector Inquiry on Capacity Mechanisms in Europe. It sets out two alternative methods for explicit remuneration of cross-border contributions, depending on whether the neighbouring transmission system operator agrees to cooperate in the implementation of a certification and control process for capacities in its control area.

This is the first example in Europe of implementing explicit cross-border participations involving both interconnections and cross-border generation/demand response capacities, and therefore a significant step to further European market integration. The proposed approach aims to be pragmatic in view of the binding regulatory framework. The choice of design may be reconsidered following initial feedback.

These developments in the context of France are increasingly relevant on the European level. While questions of medium to long-term capacity adequacy and capacity mechanism design were debated mainly on a national level, the European dimension is increasingly significant today. The subject of capacity mechanisms and specifically cross-border participation is one of the major points of the Clean Energy Package, currently in discussion.

In addition to the development of a European legislative body on this theme, the issue of cross-border participation has also been addressed in reports of Europe-wide organisations, such as the Pentilateral Energy Forum, completed in the first half of 2017. This report focuses on the technical (contribution of cross-border entities to France's security of supply) as well as economic (capacity value allocation) issues raised by the concept of cross-border participation in capacity markets.

From the start of the French consultation on the explicit participation of interconnections with the European power system in the capacity mechanism, in the spring

of 2015, RTE adopted an evaluation framework based on both technical and economic criteria. The various working group sessions brought about a deeper expansion of this analysis.

Firstly, from a technical perspective, the move from implicit participation to explicit participation of cross-border entities cannot be to the detriment of France's security of supply. The model of explicit participation selected must therefore be designed to provide an effective safeguard, in terms of security of supply to French consumers, who ultimately pay the cost of the capacity market. As the current European regulatory framework does not guarantee the contribution of a zone to the security of supply of another in simultaneous scarcity situations in close to real time, the amount of explicit cross-border participation must be consistent with the contribution expectation of European countries to France's security of supply, that is to say, the same level as that of the implicit cross-border participation. This means that explicit cross-border participation will not, at least in the short to medium term, increase foreign contributions to France's security of supply at times of stress (these contributions being already determined by the energy market).

This initial observation led to consider explicit cross-border participation from an economic perspective. As the benefits for security of supply of taking foreign contributions into account in the capacity market are limited, the issue of cross-border participation should primarily be considered as a question of allocation of the capacity value from a model based on implicit participation of French consumers, toward a model based on explicit participation from certain cross-border entities. The current capacity mechanism therefore needs to evolve to bring about financial incentives that best match the physical reality, taking into account, where feasible, the contributions of interconnections and generation/demand response capacities. Potential situations of overcompensation or multiple compensation in the case of participations in several capacity markets must be avoided, as much in the interest of the consumer as of the market.

When considering the conditions under which to allocate capacity value, several additional issues arise: the selection of certain generation/demand response capacities bordering the French capacity mechanism or participation of all of these capacities in the form of

a global available margin², allocation of the capacity value between cross-border generation/demand response capacities and interconnections, sharing the capacity value linked to an interconnection between two transmission system operators jointly owning this same interconnection. These points were addressed in the discussions with stakeholders, while keeping in mind the existing framework already defined by the European Commission in its decision to approve the French capacity mechanism.

During the last consultation phase led by RTE in 2017, two alternative methods of allocating capacity value between interconnections and cross-border capacities different from those already considered by RTE were put forward³. These methods involve restricting access to the French capacity market to only certain foreign capacities, according to predetermined criteria. By acting on the balance between interconnection capacities and cross-border generation/demand response capacities, these influence the allocation of capacity value between the two types of entity, and particularly by increasing the value allocated to cross-border generation/demand response capacities. Whilst basing the allocation of capacity revenues on parameters that have been predefined with the help of specific studies would lead to a fairer allocation of the capacity value, there would be no real guarantee of the accuracy of the economic result obtained and this would mean increased complexity in the configuration of the cross-border participation system. Moreover, the development, by the various Member States of the European Union with capacity mechanisms in place, of cross-border participation solutions that are restrictive in terms of opening up to cross-border capacities, could result in a juxtaposition of national mechanisms, with no real plan to integrate within Europe.

In accordance with the European Commission's decision, the design RTE recommends in this report involves allocating capacity value on a fully market-based premise, with the potential for this value to be tapped into by all of the capacities of a bordering country, in accordance with principles consistent with those the national capacity market was based on. This solution is realistic, given the deadlines set by the

European Commission for deploying the mechanism, and consistent with its approval of the French capacity mechanism. It remains imperfect, in terms of allocation of value: due to the individualisation of the participation of some bordering capacities in all of the models considered in consultation, no option to date can guarantee perfect distribution of this value. However, this option could be considered on condition that the cross-border participation be based on reciprocity between countries, in the form of a market coupling of capacity (market-wide mechanisms), which would be a target solution.

This approach favours the potential evolution, in future, towards economically more efficient models and a better integration of capacity mechanisms Europe-wide. RTE's proposal of the most market-based model possible, with no adjustment to the allocation of value is thus a conscious choice to favour European integration over short-term national optimisation, in an increasingly restrictive regulatory context. Only true market coupling would allow European capacity markets to move beyond one-off national interventions when faced with "energy-only" market failures, and thus affirm their place in the European electricity market design over the long term. Detailed feedback from the first years of operation of the cross-border participation system and on the prospects of European integration could confirm or question this choice. Revisions could potentially be made to the model selected depending on how prospects of European integration come to fruition.

This suggests the need to reflect on the systems in place in European States which could in the future, following the approval decision of the Commission, see their transmission capacities participate in the French capacity mechanism. To ensure a truly level playing field within Europe, it is important for all Member States implementing capacity mechanisms, of any type (market-based or not), to guarantee cross-border participation according to equivalent terms. Whilst the defence of the principle of reciprocity for introducing capacity mechanisms is a political issue, it is also an economic one: opening only some of the national mechanisms could bring about distortions in terms of investment at European level.

2. See 2015 RTE consultation document on incorporating cross-border interconnections of the European electricity transmission system into the French capacity mechanism.

3. See Annexes 1 and 2 of the report.

These principles need to be taken into account within the context of opening the French capacity market. In accordance with the Commission's approval decision, cross-border capacities will have access to the French capacity market, but the implementation of this participation will have to respect the core principles of the French market as well as its main objective: to ensure security of supply in France for the benefit of its consumers.

Objectives of this report

This report details RTE's proposal to implement explicit cross-border participation in the French capacity market as early as 2019, in keeping with the European Commission's approval decision of the capacity mechanism and contributions of market participants during the various consultation meetings.

RTE's proposals set out in this report were discussed on 8 September 2017, in the Market Access Commission of the CURTE (transmission system users' committee). A working version of this report was delivered to the market participants and was amended on the basis of the comments received. This latest version contains the final recommendations of RTE to the State services, within the context of the future revision of the decree on the capacity mechanism⁴ and the capacity mechanism market rules⁵. These two revisions are necessary to enable the implementation of explicit cross-border participation from the beginning of the 2019 delivery year, in accordance with France's commitment to the European Commission.

4. Decree No. 2012-1405 of 14 December 2012 relating to the contribution of suppliers to the security of electricity supply and on the establishment of a capacity obligation in the electricity sector.

5. Order of 29 November 2016 defining the capacity mechanism rules and taken in application of Article R. 335-2 of the French Energy Code.

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1. RATIONALE FOR INCORPORATING CROSS-BORDER INTERCONNECTIONS OF THE EUROPEAN ELECTRICITY TRANSMISSION SYSTEM INTO THE FRENCH CAPACITY MARKET

1.1 Implementation of a capacity market in France

1.1.1 Objectives of the French capacity market

France, like other European Union Member States, has chosen to make the security of electricity supply a core energy policy objective. The French public authorities have thus defined an explicit target to achieve, in the form of a security of supply criterion. This criterion is now set at three hours of loss of load expectation (LOLE).

The French capacity market aims to ensure that the security of supply criterion defined by the public authorities is factored into the decision-making of electricity market players. Established under the NOME law of 2010, it was implemented from 2017 (the first year of monitoring commitments) based on the observation that, energy markets alone cannot ensure a level of security of supply that reflects collective preferences and public choice.

1.1.2 Principal characteristics of the French capacity mechanism design

The French capacity mechanism is a decentralised market-based mechanism, involving all capacity operators as a whole (market-wide) and technologically neutral. It guarantees security of electricity supply by ensuring accountability of suppliers and capacity operators:

- Suppliers must contribute to the security of electricity supply. As such, obligation is assigned to them based on the actual consumption of their customers during peak periods. To fulfil

this, suppliers must obtain a certain amount of capacity certificates, either for the sources it owns (generation or demand response capacities), or by acquiring capacity certificates on a decentralised market from their holders (operators or other participants having previously bought certificates, such as suppliers or traders). Obligation, a function of parameters defined four years in advance of the target delivery year, will be calculated on the basis of consumption data actually measured in the perimeter of the supplier and compared to the number of certificates held by the supplier (with a financial settlement if there is an imbalance).

- Capacity operators must have their capacities certified with RTE. They are allocated capacity certificates by RTE according to their forecast availability declared by their facilities during peak demand. The forecast availability announced by the operator will be compared to that actually observed. In case of an imbalance between the amount of certified capacity and the actual capacity, a financial penalty will be imposed to account for these differences and as an economic incentive for operators to correctly assess their availability consistent with the certification procedure.

The European Commission's in-depth investigation into the French capacity mechanism, opened on 13 November 2015 did not call into question the major principles of the capacity mechanism and in fact approved the principal elements of the mechanism design on 8 November 2016: "[...] the investigation has confirmed the positive features of the French capacity mechanism already proposed in its original design. This includes notably its openness to all potential types

6. European Commission, 8.11.2016, Press Release, State aid: the Commission authorises the revised capacity mechanism in France.

of capacity providers, in particular demand response operators, and its market-based character based on auctions and trading.”⁶

1.2 Incorporating cross-border interconnections in the European electricity transmission system

1.2.1 Current incorporation of interconnections into the European System in an implicit and statistical manner

The French capacity market currently takes into account cross-border interconnections of the French electrical system with European countries, in application of the existing legislative and regulatory framework. This inclusion, provided for since the launch of the mechanism, is currently statistical and implicit.

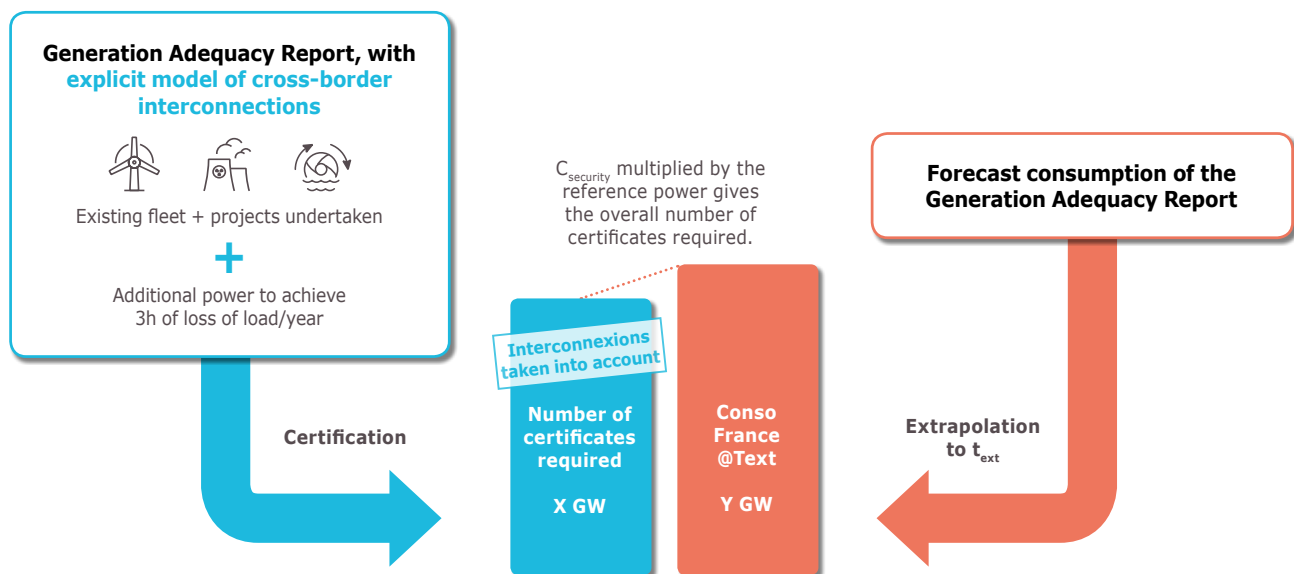
This “implicit” solution is established under article 3 of decree 2012-1405 of 14 December 2012 establishing a capacity obligation mechanism, which provides that

“cross-border interconnections of the French electricity market with other European markets are taken into account in the determination of the capacity obligation. Their effect is integrated in the determination of the security factor, taking into account expected risk of loss of load”.

It involves applying a security factor to the capacity obligation of French suppliers, which includes the contribution of the European power system to the French security of supply. The security factor acts as a “pooling” parameter, and leads to a reduction in the total amount of this obligation.

It ensures that the overall amount of capacity obligation corresponds to the amount of certified capacities required to meet the security of supply criterion set by the public authorities. The security factor is determined four years ahead of each delivery year, based on an adequacy assessment, and remains stable during the entire period (until imbalance settlement). For the first years of operation of the capacity mechanism it was set to 0.93.

Figure 1. Set of rules for implicit and statistical inclusion of cross-border interconnections of the European electricity transmission system in the French capacity market



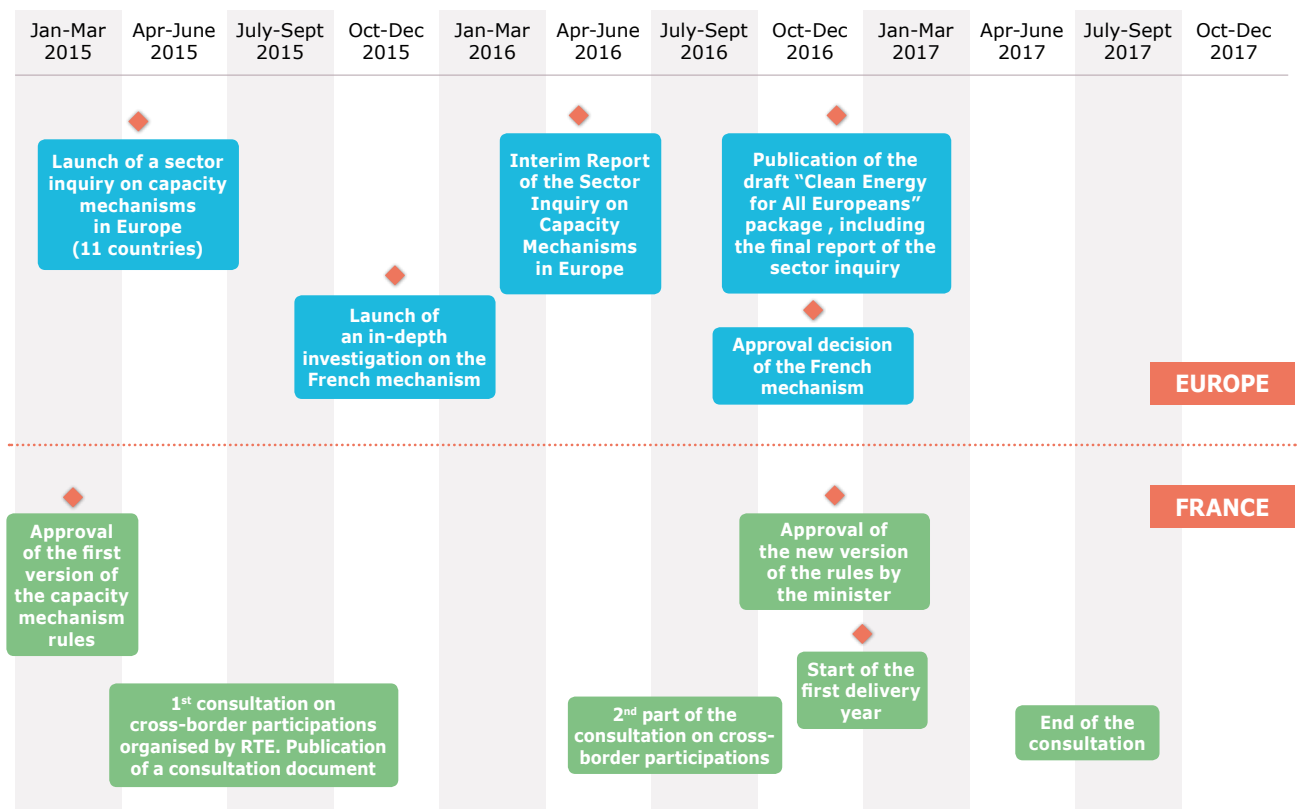
1.2.2 Evolution of the set of rules for incorporating cross-border interconnections into the European electricity transmission system

By letter dated 1 August 2014, RTE was mandated by the ministry in charge of energy to study the opportunity of going from taking into account France's interconnections to the European power system in an implicit and statistical manner to other, explicit forms of participation. This request reflects the will of French authorities to actively participate in building a united Europe of energy, with the ultimate aim of strengthening links between the different capacity mechanisms in Europe. A consultation was launched by RTE in April 2015, which led to a public consultation in August 2015.

In parallel to the consultation run by RTE with market participants in France, the European Commission carried out substantive research into capacity mechanisms in Europe, with a sector inquiry covering 11 Member States and several investigations, in particular into the French mechanism. One of the main concerns of the European Commission was the fact that the various capacity mechanisms were not sufficiently open to explicit foreign participation.

In response to the outcome of the consultation of 2015 and the interim Report of the Sector Inquiry on Capacity Mechanisms in Europe, the French authorities submitted a proposal to the European Commission to implement, by the delivery year 2019, a hybrid model (remunerating contributions from both interconnections and foreign capacities) of explicit cross-border participation.

Figure 2. French and European timetables of cross-border participation in capacity mechanisms for the period 2015-2017



In parallel to the discussion between the French authorities and the European Commission (spring-summer 2016), a second consultation session was held by RTE with market participants in order to define the major principles of this hybrid model. The Commission Decision of 8 November 2016⁷ endorsed the following key principles:

- ▶ For the 2019 delivery year, the French authorities have committed to unilateral implementation of an in-depth cross-border participation procedure (formerly called the "pragmatic hybrid solution"), which involves certifying foreign generation/demand response capacity providers which have acquired access tickets for the French capacity market at auction (formerly called "interconnection tickets"). This means the French regulatory framework will integrate the possibility for facilities located in neighbouring Member States to participate explicitly in the French capacity mechanism, provided that a sufficient amount of tickets for access to the French capacity market have been acquired in advance.
- ▶ This regulatory framework will nonetheless provide for the agreement of the transmission system operators of the Member States concerned, through cooperation agreements making it possible to introduce a certification process and controls of foreign capacities.
- ▶ Should certain transmission system operators fail to sign such agreements, the French authorities undertake to implement a streamlined procedure for cross-border participation (formerly called a "safeguard procedure") allowing explicit cross-border participation in the capacity market and to thus move away from the model based on implicit participation. This streamlined procedure will consist of explicit participation of interconnections (a solution that can be implemented without the support of other Member States).

To prepare the necessary revision of the capacity mechanism decree of 14 December 2012 and to present the RTE proposal, a third consultation session was held with the market participants in May-June 2017. The

public consultation gathered input from many market players to fine-tune this proposal⁸.

The French and European calendars from 2015 for the work on cross-border participation in capacity markets is presented in Figure 2.

1.3 Main principles of the solution chosen, as set out in the European Commission's approval decision of 8 November 2016

The main solution proposed by France and approved by the Commission is the in-depth procedure for cross-border participation, based on a hybrid model in which tickets are allocated to interconnectors granting access to the French capacity market, and ultimately allowing the participation of foreign generation/demand response capacity providers in the French capacity market under simplified conditions. This solution includes four major steps:

- ▶ 1st step: to determine (via a probabilistic study) an aggregate volume allocated to the explicit participation of foreign entities;
- ▶ 2nd step: to define a distribution key of this aggregate volume so as to grant a certain level of tickets for French capacity market access per border where the in-depth procedure is established;
- ▶ 3rd step: organisation of access ticket auctions by border where the in-depth procedure is in place;
- ▶ 4th step: certification of border generation/demand response capacities which have acquired access tickets and monitoring of these capacities over the delivery year.

If the streamlined procedure for cross-border participation is in place on one of the borders with France, interconnectors are directly certified and remunerated on the French capacity market, while foreign generation/demand response capacity providers do not receive remuneration.

⁷ European Commission (2016), Commission Decision of 8.11.2016 on state aid scheme SA.39621 2015/C.

⁸ During this last consultation RTE received thirteen contributions from the following: Associations Familiales Laïques de Paris, AFIEG, CELEST, CLEEE, DIRECT ENERGIE, EDF, EFET, ENGIE, EPEX SPOT, SWISSELECTRIC, UNIDEN, UNIPER, VEOLIA.

1.4 Presentation of the regulatory framework established by the European Commission's approval decision during the third public consultation session

The in-depth and streamlined procedures for cross-border participation were studied in detail during the third consultation session. Five main themes were addressed during the exchanges held by RTE with the market participants in France:

- ▶ setting the capacity market parameters in terms of cross-border participations;
- ▶ the terms for participation of a cross-border generation/demand response capacity provider in the

French capacity market when the in-depth procedure for cross-border participation is implemented on a border.

- ▶ detailed terms for participation of an interconnection capacity provider in the French capacity market when the streamlined procedure for cross-border participation is implemented on a border.
- ▶ agreements for cooperation with foreign TSOs;
- ▶ general calendar for cross-border participations.

Based on the consultation with market participants RTE has developed the following proposals divided into parts:

- ▶ Part 2: the key issues involved in incorporating explicit cross-border participation into the French capacity market.
- ▶ Part 3: technical issues related to this participation.

2. THE KEY ISSUES INVOLVED IN INCORPORATING EXPLICIT CROSS-BORDER PARTICIPATION INTO THE FRENCH CAPACITY MARKET

Security of supply is an integral part of national energy policies within the European Union. However, the European electricity grid is highly interconnected and Member States depend on each other to ensure the continuity of their supply of electricity. This interdependence is set to increase with the development of new interconnections in the years to come.

Thus, during periods of high consumption, the European states will be increasingly dependent on imports from the rest of Europe for the supply of their domestic consumers. European consumers as a whole will gain from this evolution, as it will reduce generation capacity margins on the European scale in the long run.

Faced with the challenges of security of supply, greater coordination between solutions developed at the national level, thanks to the widespread development of explicit cross-border participation, should reinforce cohesion between the systems and improve social welfare. It will particularly ensure that European consumers contribute to meeting security of supply on a global scale in an equitable manner.

Transitioning from an implicit cross-border participation in the French capacity market to an explicit model is in the interest of improving European coordination on capacity mechanisms and security of supply in general. As this evolution is implemented unilaterally, there is a particular need for vigilance with regard to economic consequences. The choice of practical application of the mechanism will have important consequences on French consumers, who ultimately pay the cost of security of electricity supply through the capacity market.

Effective and equitable implementation of explicit cross-border participation in the French capacity market would require addressing the following two issues in particular:

- ▶ **Allocation of capacity value between interconnectors and generation/demand response capacity operators located in neighbouring countries:** the contribution of the European power system to security of supply in France depends both on the interconnections between France and its neighbours and the presence of available generation/demand response capacities in these countries. Implementation of the in-depth procedure of cross-border participation (part 2.1) will allow both interconnectors and generation/demand response capacities to receive capacity remuneration. Different methods of sharing this remuneration are possible.
- ▶ **Allocation of revenues arising from the capacity value of interconnectors** (part 2.2): remuneration of interconnections is a result of the auction of access tickets to the French capacity market under the in-depth procedure of cross-border participation, and the placing on the market of capacity certificates granted to interconnectors under the streamlined procedure. The allocation of these revenues can have significant consequences in terms of economic redistribution.

2.1 Allocation of the capacity value between interconnections and generation/demand response capacities located in neighbouring countries

The European electricity system contributes to France's security of supply by importing energy during periods when the national supply-demand balance is under strain. In some cases, these imports are no longer possible:

- ▶ either the interconnections are saturated and it is therefore not possible to increase imports without putting the safety of the electrical system in danger;
- ▶ or the generation and demand response capacities of the neighbouring country are already all used to serve the interests of consumers of their country or other areas.

Explicit cross-border participation in the capacity market must provide economic incentives to ensure that the limitations on these two factors are lifted when economically relevant, notably through investments.

The question of allocation of capacity value between interconnectors and generation and neighbouring demand response capacity operators is therefore crucial to ensuring the economic efficiency of the mechanism. In accordance with the 2015 consultation, RTE conducted analyse⁹ demonstrating that allocation of value between interconnectors and cross-border generation/demand response capacity providers can be very different depending on the border and timeframe considered.

The explicit cross-border participation model retained within the framework of the European Commission's approval decision of the French capacity mechanism is based on a "market-based" allocation of capacity value, via a competitive process to auction tickets to access to the French capacity market.

However, although capacity value is allocated through the auction of access tickets to the French capacity

market, structural choices in the design of the cross-border participation system may modify the result. This is particularly the case when it comes to the issue of limiting cross-border participations to certain types of market participants or cross-border capacity providers. The main effect of limiting the number of participants in the auction of tickets to access the French capacity market would thus be to increase the value allocated to cross-border capacity providers.

In particular, two seemingly technical issues are the focus of discussion in consultation as they are key in the allocation of capacity value between interconnectors and cross-border generation and demand response capacities:

- ▶ **The ability to define the terms for allocation of tickets to access the French capacity market differentiated as a function of the market participant, in particular with regard to French obligated parties (Part 2.1.1):** during the European Commission's inquiry into the French mechanism, the general principle of openness to all types of capacities of a neighbouring country was particularly favoured. This involved setting up a cross-border participation scheme in line with the fundamental principles of the French capacity mechanism, notable its market-wide nature. The consultation gave rise to the idea of deviating from this principle with different methods and to study the consequences.
- ▶ **The option of taking into account a notion of margin, of any kind, in the certification of cross-border generation and demand response capacities (part 2.1.2):** the hybrid model (in-depth procedure of cross-border participation) put forward by the French authorities to the Commission provides that foreign capacity providers can take part in the auction of tickets for access to the French capacity market (application of a customised de-rating factor on the installed power, in accordance with the calculation of the amount of certified capacity in France). The consultation led us to consider applying additional de-rating factors, linked to notions of margin, in the process of certifying capacities.

⁹. See 2015 RTE consultation document on incorporating cross-border interconnections of the European electricity transmission system into the French capacity market.

2.1.1 The option of defining the terms for allocating tickets to access the French capacity market differentiated as a function of the market participant, in particular French obligated parties

The in-depth procedure for cross-border participation is based on allocation at auction of tickets to access the French capacity market. This competitive process reveals the price that market participants are willing to pay to participate in the French capacity market.

The first element to take into account when considering the conditions for participation in the auction of tickets to access the French capacity market is the actual level of competition that will result. The more restrictive the conditions for participation, the less competition will occur under proper conditions and the more likely the outcome of the auction of interconnection tickets does not correspond to their true capacity value.

In addition, market participants who are allowed to take part in auctions for access tickets to the French capacity market must provide sufficient guarantees concerning the actual service they will provide the French electricity system. The conditions for participation must protect the capacity market against fraudulent practices, and thus protect French consumers who bear the cost of the capacity. To this effect, RTE's proposal is to establish a capacity pre-certification procedure for cross-border capacity operators¹⁰.

The principles of maximizing competition and guaranteeing actual service rendered are potentially contradictory, in the sense that one pushes to open participation in the auction as widely as possible while the other tends to limit it. However, a balanced compromise can be reached between these two principles if the constraints to participation in the auction are duly justified and bring real additional guarantees to the French consumer. This is what the pre-certification procedure provides, by ensuring that participants in the auction have capacities to certify if they acquire tickets for access to the French capacity market.

Several proposals for imposing stricter conditions for participation in auctions for access tickets to the French capacity market have been put forward in consultation, and in particular the possibility of restricting this participation to obligated parties in France. This suggestion was presented based on the decentralised nature of the French capacity market, and arising from the obligation placed on obligated parties to acquire capacity guarantees¹¹.

The French capacity market design is effectively decentralised, built on the concept of accountability of market players. The participation of cross-border generation and demand response capacity operators does not go against these principles as they will bid alongside French capacity operators. Aside the fact that foreign parties could not be accountable in the same way as French participants, it does not seem justified to restrict participation in auctions of access tickets to the French capacity market to French obligated parties.

During the last phase of consultation, the majority of market participants were not in favour of the system of access tickets to the French capacity market reserved for obligated parties in France, arguing that such a measure would be manifestly discriminatory.

Other proposals to differentiate ways of allocating tickets to access the French capacity market by market participant have also been addressed in consultation, and in particular the option of assigning access tickets in priority to players who show a positive "capacity track record" in the neighbouring country¹². The concept of a "capacity track record" would involve assessing individual potential for export to France for French obligated parties, by comparing their available generation and demand response capacities with the consumption that they are required to meet in the countries where these capacities are located.

This proposal aims to encourage market players to ensure the security of supply of neighbouring countries before being able to "export" their capacities, and thus move toward a future European integration of capacity

¹⁰. The pre-certification process is described in part 3.2.1 of this report.

¹¹. This proposal was outlined in the two alternative models presented in consultation, presented in annexes 1 and 2 of this report.

¹². See appendix 2 of this report.

mechanisms. There are however two juxtaposed principles in this proposal:

- ▶ a principle of priority off-market allocation of access tickets to the French capacity market to French obligated parties: compatibility with the market-based functioning demands of the in-depth procedure for cross-border participation validated by the European Commission is not proven in this case;
- ▶ a principle of taking into account the “capacity track record of cross-border market participants”, analysed in part 2.1.2.2.

It therefore appears that the best compromise between the requirements of maximising competition and guaranteeing actual service rendered by participants in the auction, would be an auction open to all cross-border generation and demand response capacity operators, provided they have undergone a pre-certification procedure. This solution is in agreement with the model described by the European Commission in the Report of the Sector Inquiry on Capacity Mechanisms in Europe.

2.1.2 The option to take into account a notion of margin, regardless of what it is, in the certification of cross-border generation/ demand response capacity holders

In the European power system, electricity flows are directed to optimise social welfare, taking into account energy price differentials between bidding zones. When a market area experiences difficulties in supply, energy prices increase, and this area imports from neighbouring areas. But when several areas are simultaneously in difficulty, it is sometimes no longer possible to import if the neighbouring areas do not have margins.

This issue has already been extensively discussed at the consultation on cross-border participation in the French capacity market, and was notably the focus of the public consultation held by RTE in the summer of 2015. Analyses conducted at this time led to the proposal of ambitious cross-border participation solutions that take into account the state of security of supply in neighbouring participating countries. Due to their complexity and the tight deadlines associated with the Commission approval of the mechanism, these approaches were not taken into consideration at this stage.

The in-depth procedure of cross-border participation described in the approval decision of the French capacity mechanism is already a simplified cross-border participation solution. These simplifications are intended and are the result of a pragmatic construction of the cross-border capacity market. The selected approach has a natural potential for evolution towards more complex and effective designs, and particularly towards a potential coupling of European capacity markets. Such coupling would render different market-wide capacity markets compatible, particularly in terms of recognising capacity certificates. An operator would then have the choice of selling its capacity certificates in different countries, favouring the country where the capacity price is highest, where it can obtain tickets for access to the French capacity market at a lower price than the profit gained in relation to a sale in its market area. This coupling theoretically leads to “perfect” allocation of capacity value between generation/ demand response capacities and interconnections.

In the absence of capacity market coupling, there is no solution to ensure a “perfect” distribution of the capacity value between generation/demand response capacity providers and interconnectors. This is the result of the individualisation of the participation of foreign capacities, their selection does not reflect that in reality, all of the capacities combined of the neighbouring country considered contributes to imports to France during a stress event.

However, the consultation did lead to the study of two alternative proposals to take account of a notion of margin in the certification of cross-border generation/ demand response capacity providers, which aim to change the allocation of capacity value stemming from the in-depth procedure of cross-border participation, as described in the Commission’s approval decision. These proposals, described in the two following subsections, both consider issues of margin, but differently.

2.1.2.1 Proposal to take into account an “export margin” notion of neighbouring countries¹³

This proposal would be to take into account, in the certification of capacities, their contribution to the “export margin” of a neighbouring country. An

¹³. This proposal is outlined in an alternative model presented in consultation, featured in annex 1 of this report.

additional de-rating factor would be applied to the forecast availability of cross-border capacity providers, defined on the basis of a technical and economic study comparing the use of a capacity in the European interconnected power system, to a situation where fictitious countries would be disconnected from each other.

The main objective of this proposal is to distinguish the capacities used for exports from those used to cover national consumption. This would allow greater remuneration of peak or semi-base capacities over base capacities, which would receive no or very few capacity certificates. This measure would significantly reduce the capacity offer in neighbouring countries, and would also alter the distribution of the value between interconnections and cross-border generation/demand response capacities, in favour of the latter.

The advantage of this approach is its focus on the true contribution of capacities to France's security of supply. However, it evaluates actual contribution according to a different method from the marginal method used for the certification of capacity in France. The approach used for French capacities is based on analysis of the impact of the withdrawal or addition of a capacity on the hours of loss of load in France. Thus, in accordance with this principle, all of the capacities of a neighbouring country contribute identically to the security of supply in France: there is no possible distinction between the contribution of a base power plant and a peak plant of a neighbouring country (no distinction possible in terms of imports) during stress events in France. The cross-border participation system allowing the development of base or peak load capacities in a neighbouring country will have strictly the same impact on security of supply in France.

On the one hand, when an operator sells its electricity generation on wholesale markets, it does not specifically intend it for one country over another: it's the market coupling algorithm that directs energy flows, with no discrimination between the electricity generated by a base or peak load capacity. The operator of a base load capacity in a neighbouring country of France would

therefore have good reason to question the fact that its contribution to exports to France was considered differently from that of an operator of a peak load capacity from the same country.

On the other hand, treating base and peak load capacities differently poses practical difficulties, primarily by the need to define specific de-rating factors for each category of assets according to their participation to the "export margin", hence the significant complexity in implementing cross-border participation. Distinguishing between base and peak load power sources prior to the periods concerned is a risky exercise as the competitiveness between the various sources can be reversed. Basing this distinction on an observation of the behaviour of capacities, for example their duration of operation, can have a distorting effect on energy markets by inciting some plants to produce less.

Finally, placing a different value on base and peak load capacities can distort economic incentives for investment. The energy mix of countries whose capacities are able to participate in the French capacity market could then deviate from its optimum, with an over-representation of peak capacities.

Based on all of the points outlined in this analysis, RTE does not recommend this proposal.

2.1.2.2 Proposal taking into account the "capacity track record" of foreign market participants¹⁴

Another system of participation would be to select capacities located in another country on the basis of their belonging to market players with a positive "capacity track record"¹⁵ in a neighbouring country.

In practice, this proposal could require checking the effective availability across all of the capacities of the neighbouring country, as well as defining and calculating a "hypothetical capacity obligation" for the participants of the neighbouring country. This would be tantamount to implementing "proto-French capacity mechanisms" in all of the neighbouring countries. The

¹⁴. This proposal is outlined in an alternative model presented in consultation, featured in annex 2 of this report.

¹⁵. It involves considering the difference between the hypothetical certification of all the capacities of a market participant in a neighbouring country and its hypothetical obligation in terms of the consumption of its customers in this same neighbouring country.

practical difficulties and operational costs associated with this proposal would therefore likely be particularly high.

The advantage of this proposal is that it is in line with a market-wide coupling of capacity mechanisms in Europe. The latter is in fact the theoretically perfect solution to allocate capacity value between interconnections and generation/demand response capacities. It deviates from this nevertheless on several aspects, and presents several disadvantages in relation to this target solution.

One major difference with a capacity market coupling is the fact that it does not take into account players whose "capacity track record" is in deficit, since there is no real capacity obligation in the neighbouring countries. A neighbouring country could thus experience a serious shortage in electricity supply and be unable to export energy to France if its overall capacity margin was zero or even negative. Only one market participant in this country with a positive "capacity track record" would be sufficient to be remunerated for capacity guarantees in France. This example shows that the notion of "capacity track record" per participant does not allow proper remuneration of cross-border capacities in the French capacity market.

On the other hand, in the same way as the proposal described in the previous subsection (with notion of "export margin" taken into account), from the standpoint of France's security of supply, there is no reason to distinguish between the capacities of French obligated parties with a positive margin abroad from other capacities of the neighbouring country concerned.

Finally, the mechanism deriving from this proposal would potentially be open to market manipulation. Comparison of the treatment of a player who is vertically integrated "capacity track record" is zero and from this same market participant dissociate its supply and generation activities provides a good illustration. In the first case, the participant would not be able to be remunerated for capacity in France, whereas it could in the second case, without neglecting, however, that

such an operation of separating activities could come at a significant cost.

Based on all of the points outlined in this analysis, RTE does not recommend this proposal.

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PROPOSAL 1
Allocation of capacity value between interconnections and cross-border capacity providers

In accordance with the approach adopted in the French capacity market (market-wide approach) and to the European Commission's approval decision, RTE has proposed not to integrate any additional provisions to amend the allocation of the capacity value revealed by the market in the in-depth procedure of cross-border participation as proposed to the Commission.

RTE proposes to open auctions for access tickets to the French capacity market to all pre-certified capacity operators of the neighbouring countries concerned, subject to the proposals relating to multiple participations (in several capacity markets) developed in part 3.2.1.2.2 of this report.

RTE proposes that the terms and conditions of certification of cross-border generation/demand response capacity providers should be consistent with those applied to French capacity operators, with no other de-rating factor than the forecast capacity availability.

Lastly, the integration of a review clause has been proposed on the allocation of value between interconnectors and cross-border capacity providers in the upcoming regulatory framework. In this context, RTE will gather feedback two years after the implementation of explicit cross-border participation, to analyse potential deviations between the allocation of capacity value revealed by the market and the allocation evaluated through economic studies.

.....

2.2 Allocation of the value related to the participation of interconnectors in the French capacity market (in-depth and streamlined cross-border participation procedures)

The opening of the French capacity market to explicit cross-border participation by the in-depth procedure will remunerate interconnectors through revenue from auctions for access tickets to the French capacity market. Under the streamlined procedure of cross-border participation, interconnectors will be remunerated through the sale of capacity guarantees allocated to them on the market. In both cases, the remuneration of interconnectors represents an additional cost for the French consumer, and the allocation of sums collected is a major economic redistribution issue.

To analyse this issue, it needs to be viewed in the context of financing security of supply in the European power system. When French consumers pay the cost of capacity on their electricity bill, they finance capacities which provide them with guarantees in terms of security of supply, while also financing the security of supply of other consumers in Europe. These other consumers do not necessarily contribute in the same way, since not all European countries have opted to implement a capacity mechanism.

Despite the benefits stemming from the growing role of interconnections between European countries, asymmetric internalisation of the social welfare improvement of security of supply in Europe implies that the cost-benefit analysis of market opening may be less favourable for some consumers.

Such asymmetry is already observable in terms of the implicit inclusion of the contributions of cross-border interconnections to security of supply. With the explicit participation of cross-border capacities, this question takes on another dimension since the French consumer directly finances generation and demand response capacities in neighbouring countries with the in-depth procedure of cross-border participation.

The capacity remuneration of cross-border generation/demand response capacity providers under the in-depth procedure is naturally destined to operators

having acquired access tickets to the French capacity market. However, with regard to the remuneration of interconnectors, the allocation of capacity revenue cannot be taken as a given.

Indeed, access tickets to the French capacity market allocated to capacity operators under the in-depth procedure are not rights to use interconnection capacities, since they do not confer any energy transmission rights. Moreover, when cross-border capacity operators receive capacity guarantees, they do not commit to exporting to France but rather merely to be available in their market area. The share of income derived from allocating access tickets to the French capacity market is not necessarily based on share of an interconnection owned by each TSO.

Capacity remuneration of interconnections financed by the French consumer can only be shared between system operators if the consumers of the neighbouring country also pay for the contribution of the interconnections to their security of supply, and that the revenues associated are also shared between interconnectors. When this is not the case, it has been proposed that revenues collected on the French capacity market could be redistributed to French consumers.

The issue of revenue sharing among interconnectors (in-depth and streamlined procedures of cross-border participation) would require taking an interest in the situation of the neighbouring country, with several possibilities:

- ▶ case 1: countries which have not implemented a capacity mechanism;
- ▶ case 2: a country that has implemented a capacity mechanism but with no capacity remuneration of interconnections or with no sharing of revenues related to the interconnections;
- ▶ case 3: a country that has implemented a capacity mechanism with capacity remuneration of interconnections and sharing of associated revenues.

Starting from the principle that profits earned by the interconnectors of a country end up benefiting the consumers of this same country, and that its these same consumers that pay for security of supply in their countries:

- ▶ in cases 1 and 2, sharing the capacity revenues from interconnections with the neighbouring interconnector would result in a windfall for foreign

consumers and a distortion in the financing of interconnections to the detriment of the French consumer;

- ▶ case 3 is the only situation where sharing interconnection revenues between interconnectors is justified.

In practice, presently only market-wide capacity mechanisms offer prospects for the capacity remuneration of interconnections equivalent to those that will be applied in France. There is thus a proposal to retain the market design criterion that distinguishes between countries, as in case 3: this is when countries have implemented a market-wide capacity mechanism with remuneration of interconnections (explicit cross-border participation) and associated capacity revenue sharing.

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PROPOSAL 2

Sharing between interconnectors of revenue from the participation of interconnections to the French capacity market

RTE proposes systematic sharing of capacity revenues from interconnections (access tickets to the French

capacity market in the case of the in-depth procedure of cross-border participation, capacity certificates in the case of the streamlined procedure) among interconnectors in the case where the neighbouring country has a market-wide capacity mechanism with remuneration of interconnections (explicit cross-border participation) and similar principles for the sharing of income from interconnections.

Moreover, RTE clarifies that the share of revenues it receives from the sale of access tickets to the French capacity market or of capacity certificates relating to an interconnection should be repaid directly to consumers in France. To do this, these revenues should be used according to the same terms as revenues resulting from the allocation of interconnections, as laid down in regulation 714/2009/EC. This solution appears the most effective for remuneration of cross-border participations to benefit the French consumer.

Finally, from a practical point of view, RTE is in favour of the option of remunerating access tickets to the French capacity market or capacity certificates issued to interconnectors exclusively by RTE, with, where relevant, ex-post revenue sharing as set out in the bilateral agreement with the neighbouring interconnector.

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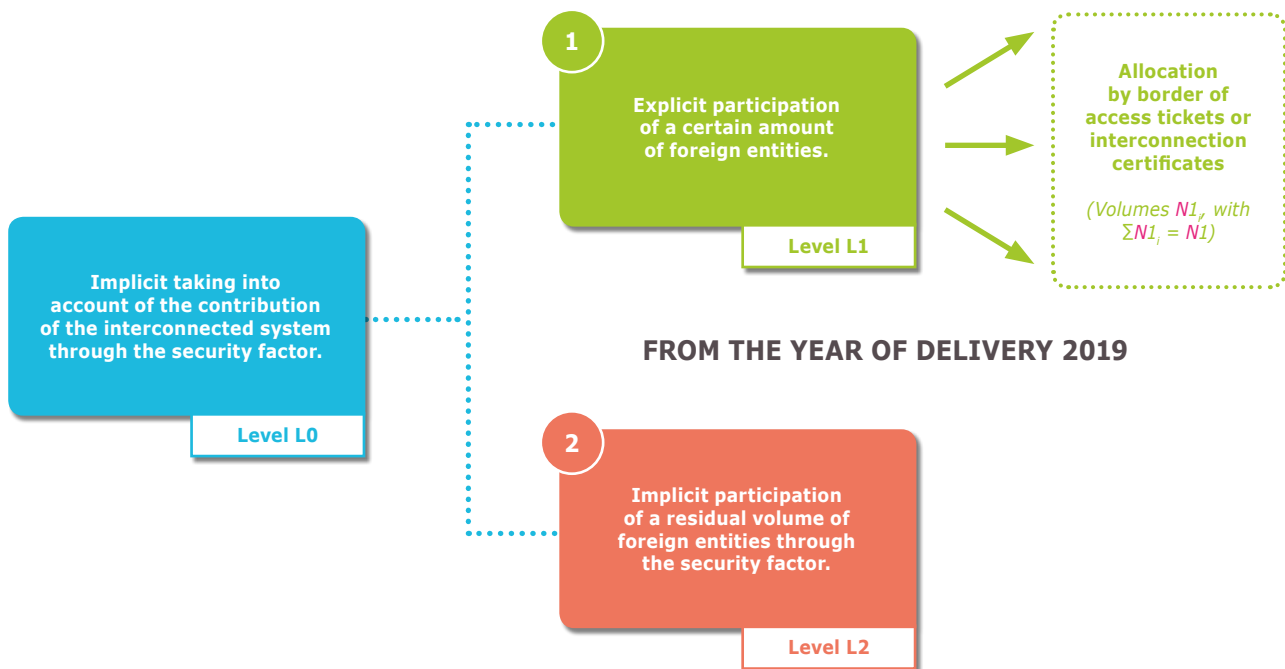
3. TECHNICAL ISSUES RAISED BY EXPLICIT CROSS-BORDER PARTICIPATION IN THE FRENCH CAPACITY MARKET

In addition to the two major issues raised in the previous section, the practical application of a cross-border participation solution requires focusing attention on the detail in each stage of the process of participation of a cross-border entity in the French capacity market. These various elements are specified in the following part of this section and concern both the in-depth procedure of cross-border participation and the streamlined procedure.

3.1 Setting the capacity mechanism parameters in terms of cross-border participations

Currently, all foreign contributions to France’s security of supply are taken into account implicitly and in an aggregated manner (Level L0) through the security factor. From the year of delivery 2019, determining this volume will involve two additional calculations: calculating the volume of explicit cross-border participation (level L1) and the volume of residual implicit cross-border participation (level L2).

Figure 3. Levels of remuneration of cross-border contributions to security of supply



PROPOSAL 3

Determination of the overall capacity value of the interconnected system

RTE proposes to use an updated probabilistic adequacy study, similar to the one currently used to determine the security factor, to determine the overall contribution of foreign entities to France's security of supply (Level L0).

The study will be updated annually and could incorporate practical elements on the functioning of European energy markets in stress situations. This would in fact imply a coherent opening of the capacity market with the empirical observations of cross-border contributions.

This allocation will be updated annually.

The market participants were not opposed to this principle in consultation.

Once determined, the overall capacity value must be allocated by border with a view to: 1) either remunerate in the form of access tickets to the French capacity market, 2) or remunerate in the form of interconnection certificates, 3) or implicit remuneration via the security factor.

Three methods for allocation of value were presented to the market participants:

- ▶ Allocation on the basis of projected imports in scarcity periods in France.
 - ▶ Allocation on the basis of historic imports during stress events in France.
 - ▶ Allocation on the basis of historical benchmarks of interconnection capacities allocated long-term.
-

PROPOSAL 4

Allocation of the capacity value by border

RTE submits that the cross-border allocation of capacity value should be based on a probabilistic adequacy study, focusing on imports aimed to prevent losses of load from each border.

The advantage of this proposal is that it is consistent with the terms for determining the overall value of the

interconnected system, taking into account the issue of margin which is central in the capacity mechanism theory and not focusing solely on past data. It is consistent with the feedback from the consultation with market participants.

Special attention should be paid when calculating at the Belgian-German border of the CWE zone, in the sense that since the implementation of a flow based market coupling in 2015, exchanges at this border are determined on a consolidated basis.

Finally, the last consultation phase was an opportunity to affirm the continued future use of a revised security factor, for the following two reasons:

- ▶ The security factor not only represents foreign contributions to security of supply in France, it also allows loopback of the entire system, to ensure a 3-hour loss of load expectation criterion (consistency between the estimated reference power for France and the certification of the generation fleet based on a 3-hour loss of load expectation).
- ▶ In addition, some foreign contributions are not intended to be remunerated explicitly under the new cross-border participation system: this is currently the case in Switzerland (in accordance with the Commission decision which only refers to neighbouring Member States).

The market players were consulted on the timetable to determine the value of the security factor (crucial for suppliers to estimate their capacity obligation).

PROPOSAL 5

Revision of the security factor

In accordance with feedback received from the market participants and for the purposes of stability and simplicity, RTE suggests including the idea of establishing the entire set of parameters in the future decree on the capacity mechanism of the cross-border participation system, including the security factor, four years ahead of the delivery year.

It will therefore no longer be possible to revise these parameters (overall value of the interconnected system, allocation of the value by border, security

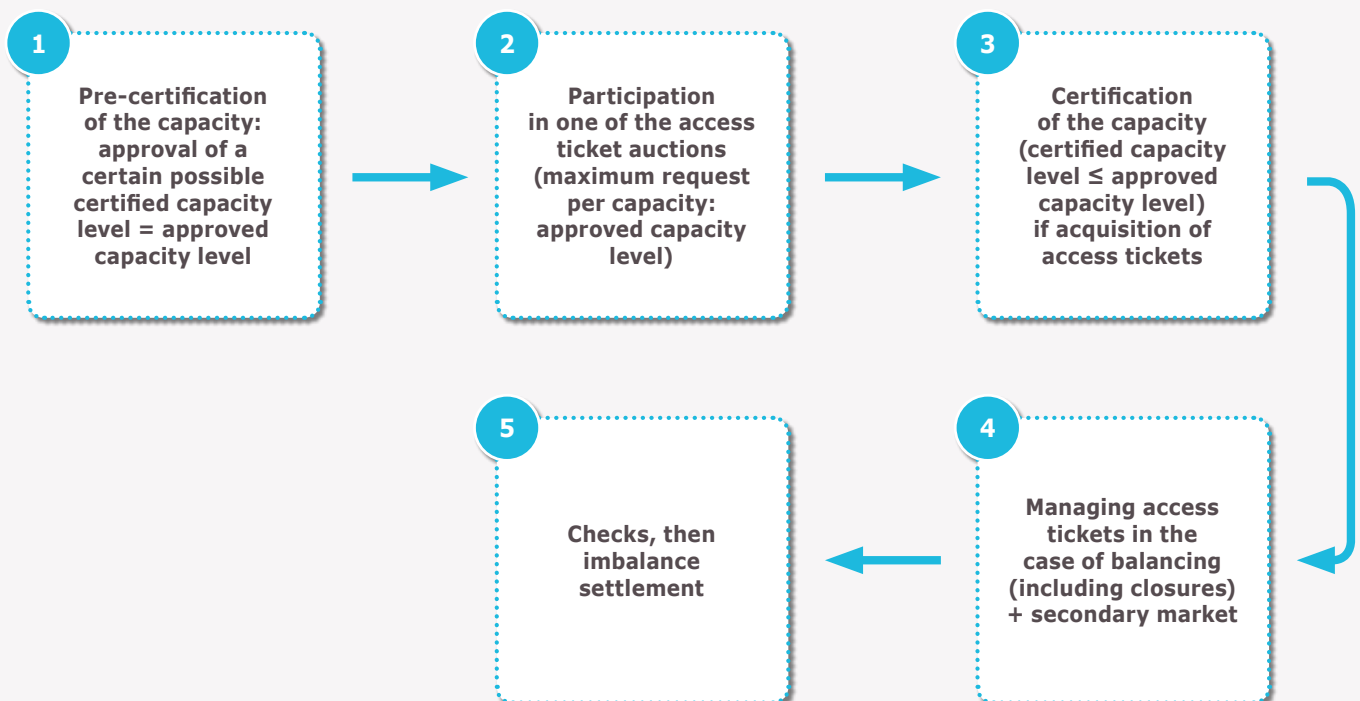
factor) throughout the duration of a capacity market (1 January DY-4 to 15 March DY+3), except in the case of an evolution in the regulatory framework imposing an exceptional revision of one or several of these parameters.

The value of the security factor, determined as today on the basis of a probabilistic adequacy study and taking into account implicit participation of Swiss capacities (at least at first), will be updated annually¹⁶.

3.2 Participation of a cross-border generation/demand response capacity in the French capacity market under the in-depth procedure of cross-border participation on a border

When the in-depth procedure for cross-border participation is implemented on a border, the procedure for a cross-border capacity provider's participation "through the interconnection" can be described in five major steps, detailed below.

Figure 4. Steps in the process for participation of a cross-border generation/demand response capacity provider in the French capacity market



16. In December 2017, RTE announced a proposal for revision of the security factor for the year of delivery 2019, to take into account the explicit participation of cross-border contributions. In accordance with article 6.1.4 of the capacity mechanism terms and conditions, RTE suggests setting the value of this new factor to 0.99, up from its current value of 0.93.

3.2.1 1st step: pre-certification of the cross-border generation/demand response capacity

3.2.1.1 Principles of a pre-certification process

PROPOSAL 6

Existence of a pre-certification process

RTE proposes that participation of a cross-border generation/demand response capacity provider in a border auction of access tickets to the French capacity market be conditional on the completion of a pre-certification process by the capacity operator concerned, in a manner similar to the aggregation procedures already followed for frequency ancillary services and manual frequency restoration and replacement reserves.

At the end of the pre-certification process, an approved capacity level would be defined per capacity. This approved capacity level would correspond to the maximum amount of access tickets to the French capacity market that can be acquired by the capacity concerned during the initial auction of these tickets. It arises from taking into account the forecast capacity availability on the basis of the declarations of the operator, with application of the certification process of the French capacity market.

3.2.1.2 Eligibility of cross-border capacities

The definition of a pre-certification process also involves focusing on the types of cross-border capacity eligible for such a procedure.

The question of the degree of openness to cross-border capacity providers of auctions of access tickets to the French capacity market led to two different views arising from the consultation of stakeholders:

- ▶ several participants expressed strong willingness for all capacities of a neighbouring country to be able to participate in the cross-border participation system of the French market, to ensure effective competition and limit costs for the consumer.
- ▶ one concern some participants had was with regard to the allocation of capacity value between

cross-border generation/demand response capacity providers and interconnectors.

The general question of the allocation of capacity value between cross-border capacity providers and interconnectors is addressed in section 2.1 of this report. Following the principles of proposal 1 developed in this same section (participation of all of a neighbouring Member State's capacities), special attention should be paid to two points in particular:

- ▶ participation of demand response capacities of neighbouring countries
- ▶ participation of a same capacity in several capacity mechanisms.

3.2.1.2.1 Participation of demand response capacities of neighbouring countries

PROPOSAL 7

Terms for participation of cross-border demand response capacities

RTE's proposal is that whether or not neighbouring demand response participate should depend on whether a national regulatory framework for the participation of demand response resources in energy markets and suitable load reductions check systems are in place. These prerequisites aim to ensure similar terms for explicit participation of demand response operators to those applied in France.

Whether or not these capacities would participate would be determined on a case by case basis according to cooperation agreements.

3.2.1.2.2 Participation of a foreign capacity in several capacity markets, including the French capacity market

The European Commission's approval decision of the French capacity mechanism (8 November 2016) addresses the issue of multiple participations in several capacity mechanisms: *"All production and demand-side response capacities of the country connected to France [...] will be able to take part in the auction of tickets corresponding to that interconnection. [...] The system does not prevent capacities contracted under the French mechanism from taking part simultaneously in other capacity mechanisms in the EU. In this context, it will*

be necessary to define, in partnership with the relevant countries, a procedure for checking and evaluating the service provided¹⁷."

At European level, the reflection on the coordination of the participation in several capacity mechanisms is underway, in particular via the current draft clean energy package: "*Member States shall not restrict capacity which is located in their territory from participating in capacity mechanisms of other Member States. [...] Capacity providers shall be able to participate in more than one mechanism for the same delivery period. They shall be subject to non-availability payments [...] in case of non-availability, and subject to two or more non-availability payments where there is concurrent scarcity in two or more bidding zones where the capacity provider is contracted.*¹⁸" The outcome of these reflections may require the French regulatory framework to be adapted.

More generally, participating in multiple mechanisms would be even more relevant if the risks to the national security of supply of the two countries having implemented capacity mechanisms are not correlated. Conversely, if the risks to the national security of supply of both countries are highly correlated, multiple participations may distort the assessment of the contributions of each capacity in terms of security of supply.

During the 2017 consultation, market participants were generally not opposed to the principle of multiple participations, but stressed the need for a regulatory framework of such systems if they were to be put in place. This is particularly to prevent overcompensation and avoid any double earnings of the guarantees of

power supplied by cross-border generation/demand response capacities.

Specifically, the issue of managing simultaneous commitments is central and needs to be addressed to maintain the reliability of cross-border contributions. In the case of clear conflict between commitments, it would not make sense to allow multiple participation. When multiple participations do occur, the conditions for applying penalties on the capacities concerned need to be clearly defined.

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PROPOSAL 8

Participations in several capacity markets

RTE proposes that the modalities for implementing multiple participations be considered on a case by case basis, and not be allowed in case of clear conflicts of commitment to the different capacity mechanisms.

Changes need to be implemented to the regulatory framework to cover situations of concurrent commitments (simultaneous scarcity events over a same period of commitment/simultaneous respect of commitments), in order to send appropriate signals to market participants. Cooperation agreements will clarify these points.

A cross-border capacity therefore should not be able to receive double earnings over overlapping periods of obligation and the priority commitment in the event of a simultaneous scarcity should be clearly set out in the cooperation agreements, to ensure efficient economic signals and prevent situations of undercapacity.

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¹⁷. Extract from point (121) of the Commission Decision of 8.11.2016 on state aid scheme.

¹⁸. Extract from article 21 of the Proposal for a regulation of the European Parliament and of the council on the internal market for electricity, as part of the draft clean energy package published by the European Commission on 30 November 2016.

3.2.2 2nd and 3rd steps: participation in a cross-border auction of access tickets to the French capacity market and certification of the cross-border capacity

A cross-border capacity provider eligible for participation in the French capacity market and pre-certified at an approved capacity level "NCA₁" can participate in the auction of access tickets to the French capacity market organised on the border with the country where the relevant capacity is located and acquire a maximum NCA₁ volume of tickets.

In the hypothetical case of an operator with three capacities in a neighbouring country (pre-certified respectively to levels NCA₁, NCA₂ and NCA₃), and wishing to participate in the ticket auction for access to the French capacity market, will be able to acquire a maximum of [NCA₁ + NCA₂ + NCA₃] tickets.

Finally, there is also the issue of tickets unsold during the initial cross-border auction process of access tickets to the French capacity market. Two alternatives were considered during the 2017 consultation to address this problem:

- ▶ reintegrate the value of these tickets into the security factor;
- ▶ convert these tickets into interconnection certificates, issued to interconnectors (similar process to the one set out under the streamlined procedure for cross-border participation).

The first solution conflicts with the widely expressed desire by the market participants to fix the value of the security factor as far ahead as possible in the delivery year.

PROPOSAL 9

Acquisition of access tickets to the French capacity market and certification of cross-border capacities

RTE proposes that once the access tickets to the French capacity market are acquired by the foreign capacity operator at the cross-border capacity auction of the corresponding access tickets to the French capacity market, the underlying capacities should be certified at a level equivalent to the amount of tickets acquired (for the final part of the pre-certification process),

according to terms and conditions similar to those applied to capacity in France.

The details of the supporting documents to provide between the pre-certification procedure and certification procedure should be incorporated in the future capacity mechanism rules.

In the case of access tickets which are not sold during cross-border auctions, the proposal is that these would be "converted" into interconnection certificates, issued to interconnectors.

3.2.3 4th step: management of access tickets to the French capacity market in case of rebalancing and the issue of establishing a secondary market for access tickets

Once the initial cross-border auction on interconnection tickets is complete, the tickets to access the French capacity market are held by capacity operators of neighbouring countries. The number of tickets held by a capacity operator must at all times remain consistent with the accumulated certified capacity level of all of its certified capacities.

PROPOSAL 10

Rebalancing procedure for cross-border capacities and link with access tickets to the French capacity market

RTE proposes that foreign capacities have access to a rebalancing process in the same way as capacities in France, under similar terms and conditions, and this in order to send efficient market signals.

In order to maintain a consistency, in the case of rebalancing, between the certified capacity level of cross-border capacities and the number of access tickets to the French capacity market held by their operators, the following two principles must be respected:

- 1) Upward rebalancing (increase in certified capacity level of the capacity) will need to be preceded by the acquisition of an equivalent volume of access tickets.

2) Downward rebalancing (decrease in certified capacity level of the capacity) will need to be preceded by the restitution of an equivalent volume of access tickets.

It would therefore seem necessary to introduce a degree of flexibility on the access tickets to the French capacity market after the initial auction.

Several possibilities were mentioned in the course of the consultation held by RTE:

- ▶ To organise several cross-border capacity auctions of access tickets to the French capacity market after the initial auction, according to a centralised model, in order to implement re-balancing “gates” for market participants. In this configuration, RTE would recover access tickets in the event of downward re-balancing and put them back up for sale at future auctions.
- ▶ Create a secondary market of access tickets to the French capacity market, where market players could exchange access tickets between them directly, either over-the-counter or through a system of access ticket auctions.
- ▶ Implement an extended period between the date of the initial cross-border capacity auctions of access tickets to the French capacity market and the certification of cross-border generation/demand response capacities, with free exchange of access tickets between operators which have pre-certified a certain approved capacity level of cross-border capacities as long as the certification has not taken place. This provision would be a means to adjust, up until the certification phase of cross-border capacities, the question of rebalancing with assignments of access tickets.

Several market participants have expressed they were in favour of a secondary market for access tickets to the French capacity market. Fully implementing such a market would imply the ability to closely monitor access ticket exchanges (through a new registry for example) and being able to ensure that access tickets put back into circulation are only acquired by capacity operators located in the same country that have pre-certified a capacity to an approved capacity level greater than or equal to the number of access tickets acquired. The operational implementation of such a solution would thus be quite complex in the short term.

PROPOSAL 11

Managing interconnection tickets for the French capacity market following initial border auctions

RTE proposes that the following general principles be included in the future capacity mechanism decree:

- 1) Before the deadline for certification of foreign capacities, a certain volume of access tickets to the French capacity market can be held by only one pre-certified capacity operator at an approved capacity level at least equivalent to this volume.
- 2) Once a cross-border capacity has been certified, the number of access tickets held by an operator must at all times be consistent with the cumulative certified capacity levels of its certified capacities.
- 3) Market participants must be able to compensate for changes in availability of their capacities to meet their obligations, while the incentives to declare their best estimates of availability as early as possible must remain.

RTE proposes to quickly investigate the possibility of operationally implementing a proper secondary market. In light of the complexity of such a target solution, a transitional regime could be considered. Moreover, there has been a proposal to set out in future rules, rather than in the decree, the precise terms and conditions of management (acquisition and restitution) of access tickets to the French capacity market during the mechanism term, once the initial auction of access tickets has ended.

3.2.4 5th step: control of cross-border capacity providers during a delivery year

In the model proposed by RTE, the overall level of explicit cross-border participation in the French capacity market is defined in a statistical manner. This modelling is based in particular on the observation that the current European regulatory framework does not guarantee the contribution of a zone to the security of supply of another in simultaneous scarcity situations, on the time horizons close to the real time.

Availability commitments of foreign generation and demand response capacities will not be based on flows at interconnections, but simply on availability of capacities (regardless "of which market" they are available in). The specific issue of monitoring cross-border capacities led to various reactions from market participants in consultation, with two main trends emerging:

- ▶ One practical issue some stakeholders raised is that foreign contributions to the security of supply in France are taken into account statistically and that there are difficulties to carry out checks similar to those carried out in France in foreign markets.
- ▶ Other participants felt strongly that foreign capacities should be treated equally to French ones, with equivalent checks.

As a reminder, in France, the checks on capacities are based primarily on data from the French balancing mechanism.

PROPOSAL 12

Set of rules for monitoring cross-border generation/demand response capacity providers

To ensure a level playing field between French and cross-border capacity providers, RTE will define a framework of checks which follow the French framework as closely as possible. Specifically, in cooperation with foreign TSOs, cross-border capacity providers should be required to undergo activation tests outside of merit order (as is the case for French capacities).

RTE recommends a pragmatic approach to the way in which control checks on neighbouring countries are implemented, particularly in light of the very tight implementation deadlines for the first years of delivery, and of the varied systems in place in the neighbouring countries (for example, variety of national balancing mechanisms). RTE therefore proposes that the specific terms and conditions for foreign capacity checks should be defined case by case in cooperation agreements with foreign transmission system operators.

3.3 Participation of an interconnection capacity provider in the French capacity market under the streamlined procedure for cross-border participation on a border

3.3.1 Rules for certification and control of interconnection capacities

Under the streamlined procedure for cross-border participation, interconnection capacities are no longer (as is the case with the in-depth procedure) "involuntary" participants [Commission Staff Working Document accompanying the document report from the Commission final report of the sector inquiry on capacity mechanisms of 30 November 2016], but can directly acquire and sell capacity certificates on the market, as any capacity located in France. The issue of availability checks of these entities therefore arises more than with the in-depth procedure.

As recalled in the Staff Working Document accompanying the final report of the sector inquiry on capacity mechanisms, interconnectors can only act on the technical availability of the interconnection concerned as the flows are already directed by the energy market:

"Under the present approach, interconnectors would have an obligation to be operational (technically available) at times of system scarcity in either connected zone. Interconnectors have no control over the direction of flows on the interconnection so it would not seem justified to penalise them if the flows over the interconnection are not what was expected when the de-rating based on expected flows was carried out."

In accordance with the feedback from the consultation of market participants, the terms for simplified checks on just the technical availability of interconnections appear proportionate. Such simplified terms for control checks already exist in France for intermittent renewable capacities (normative certification method). This derogatory certification method involves certifying an entity based on its historical data, and to apply specific and proportionate checks in relation to the objectives set (application of an overall derating factor calculated ex post).

PROPOSAL 13

Rules for certification and control of interconnections

For practical purposes, given the terms and conditions for managing cross-border energy flows and under the streamlined procedure for cross-border participation, RTE proposes a certification/interconnection capacity check system analogous to the normative certification method applied to intermittent renewable capacity in France:

- 1) Certification on a statistical basis.
- 2) Not possible to apply upward rebalancing beyond the normative level calculated.
- 3) In case of major technical unavailability of the interconnection, a derating factor should be applied in a proportionate manner when calculating the actual certified capacity (French: NCE).

The rules will specify the terms and conditions of certification and interconnection control checks by RTE in light of its particular role.

3.3.2 Remuneration of the availability of cross-border generation/demand response capacity providers

If the streamlined procedure for cross-border participation is implemented on a border, the generation/demand response capacities of the neighbouring country will not receive capacity certificates. The issue therefore arises of the perception of capacity value linked to generation/demand response capacities of the country concerned.

In fact, the capacity value linked to the contribution of a neighbouring country to security of supply in France is systematically shared between interconnections and foreign generation/demand response capacities,

depending on the condition of the interconnection (saturated/not saturated) during scarcity periods in France¹⁹.

Under the streamlined procedure for cross-border participation, the choice is made not to explicitly evaluate the availability of cross-border capacity providers. There are two options for remuneration of cross-border capacity contributions to security of supply in France:

- ▶ explicit remuneration in the form of capacity certificates for interconnectors: under this configuration, the interconnection would obtain the full capacity value for the country concerned;
- ▶ implicit remuneration through the security factor.

The second option involves sharing the cross-border capacity value between interconnectors and cross-border generation/demand response capacity providers. Determining this allocation is complex, and incorporating it in the security factor of the capacity value of generation and demand response capacities of countries eligible for cross-border participation does not appear compatible with the European Commission's approval decision.

PROPOSAL 14

Remuneration of contributions of cross-border generation/demand response capacities under the streamlined procedure for cross-border participation

In accordance with the explicit participation of foreign capacities approach set by the European Commission and for pragmatic reasons (particularly in view of the challenges anticipated in the allocation of value between interconnections and cross-border capacities), RTE proposes to give priority to an approach consisting of issuing the entire capacity value linked to a given country to the interconnection when the streamlined procedure is implemented on a border.

¹⁹. See 2015 RTE consultation document on incorporating cross-border interconnections of the European electricity transmission system into the French capacity mechanism.

3.4 Content of cooperation agreements with cross-border transmission system operators

As indicated above, the so-called “in-depth” explicit cross-border participation solution will only be implemented on a given border on condition that a cooperation agreement has been signed with the operator (or operators) of the neighbouring transmission system. If no such agreement is in place, the streamlined procedure for cross-border participation will be implemented.

PROPOSAL 15

Issues to be dealt with in the context of Cooperation agreements with cross-border transmission system operators

RTE recommends that the bilateral cooperation agreements with foreign transmission system operators cover the following topics in particular:

- 1) Agreement in principle for participation in the French capacity market of all or part of the capacities of the border state concerned (specifically the issue of multiple participations in different capacity markets).
- 2) Procedure for handling the capacities of a participant interconnected Member State, already participating in a capacity market, and wishing to participate in the French capacity market.
- 3) Pre-certification and certification process of cross-border generation/demand response capacity providers.
- 4) Procedures for checking availability of cross-border generation/demand response capacity providers

according to the mechanisms in place in the neighbouring country (in particular, the question of the participation of foreign demand response in the French capacity market in accordance with the procedures in place). In particular, the issue of activation tests must be dealt with.

- 5) The cross-border transmission system operator sets up the data exchanges required with the distribution system operators of the neighbouring State concerned for pre-certification, certification and capacity checks of that State.
- 6) Terms for the allocation of revenues from the cost of certification and capacities checks located on the territory of the neighbouring state, as well as the level of these costs.
- 7) Terms for allocation of revenues collected by the French transmission system operator from the sale of access tickets to the French capacity market, or from the sale of interconnection certificates, based on the principles set out in the decree.

The idea of extending cooperation agreements to regulators rather than just transmission system operators was raised in the consultation (capacity market monitoring).

A unilateral agreement signed by the neighbouring state could be considered if necessary. The question of whether this agreement would be required could in particular arise with regard to:

- ▶ implementation of the in-depth procedure of cross-border participation across the control area;
- ▶ participation of all (or only some) eligible generation/demand response capacity providers in its control area;
- ▶ performing activation tests outside the merit order (in limited number) in its control area.

3.5 General timetable for cross-border participations

3.5.1 Long-term regime timetable

Currently, the detail of the timetable for a delivery year DY of the capacity mechanism (from the start of certification of existing capacities in DY-4 to imbalance settlement in DY+3) is presented in the capacity mechanism rules, and not in the decree.

PROPOSAL 16

Principal milestones of the calendar of cross-border participations in the French capacity market under the durable scheme

At this stage of the process of reflection on the regulatory implementation of the concept of explicit cross-border participation and in accordance with feedback from the market players, RTE submits the following principles for the calendar of cross-border participations under the long-term scheme:

- 1) The parameters of the cross-border participation scheme (overall value of the interconnected system, allocation of capacity value by border, security factor) should be fixed, for each delivery year, ahead of the start of the mechanism term for this delivery year (before 1 January DY-4) and remain fixed throughout the duration of this mechanism term (up until imbalance settlement), except in the case of a change in the regulatory framework requiring an exceptional revision of one or several of these parameters.
- 2) The choice between the in-depth procedure and streamlined procedure for cross-border participation on a border and for a given delivery year is determined on the signing of a cooperation agreement several months prior to 1 January DY-4. The proposed deadline is 30 June DY-5.
- 3) The deadline for pre-certification of capacities (in-depth procedure) would be mid DL-4.
- 4) The border auctions of access tickets to the French capacity market would be held very shortly after the deadline for pre-certification of capacities (still in AL-4).

5) To guarantee consistency with the timetable for French capacities and avoid shortening the trading period for market participants (?? Check text cut) and interconnectors, the cross-border generation/demand response capacity operators would then have until 31 October DY-4 (the deadline for certification of existing generation capacities in France) to complete the certification of their capacities. This date also corresponds to the deadline for certification of interconnections under the streamlined procedure of cross-border participation on a border, or in the case of unsold tickets following an auction of access tickets to the French capacity market under the in-depth procedure.

6) Once the foreign entities have been certified, the general calendar of the French capacity market applies.

3.5.2 Timetable for the first delivery year

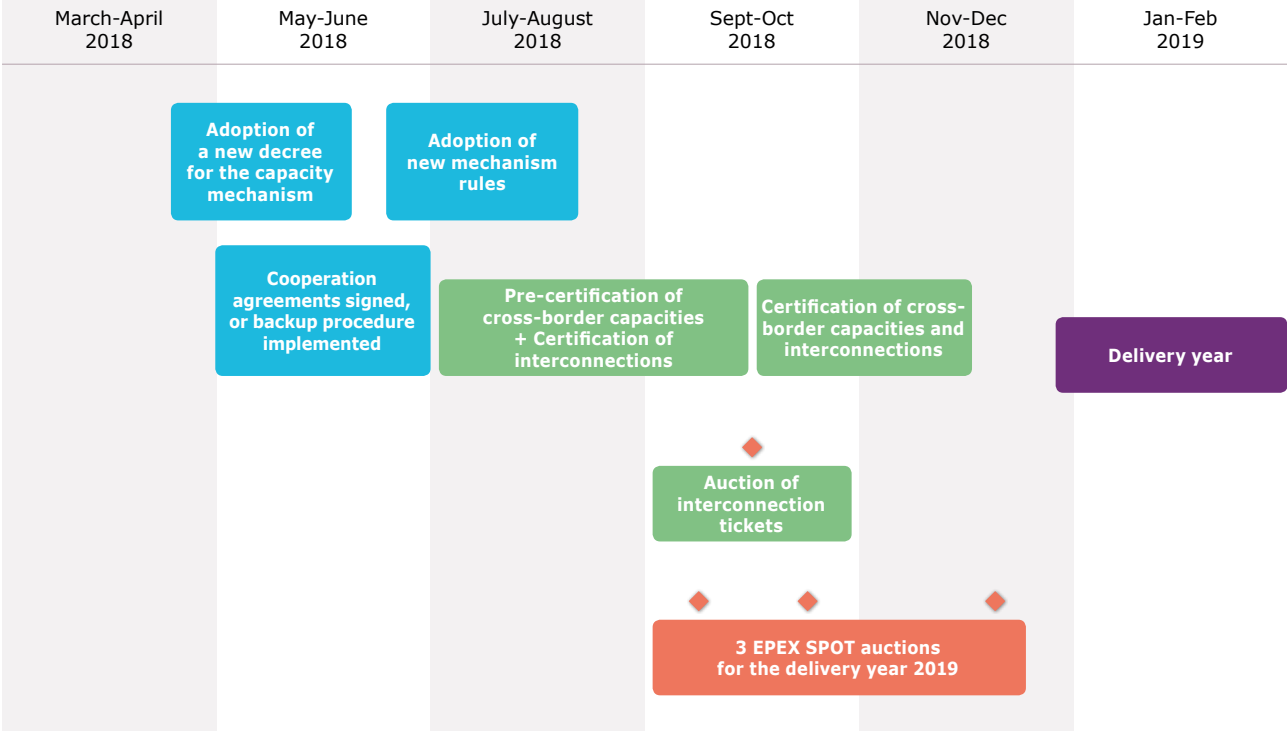
France's commitment to implementing a system of explicit cross-border participation as early as the 2019 delivery year implies amending the long-term calendar described above.

Such an amendment will more generally be required for the first years of implementation of cross-border participation. Similar transitional measures have been introduced with regard to the capacity market in France following the approval of the revised rules on 29 November 2016.

The very restricted timetable presented below is based on hypothetical dates for adopting the future capacity mechanism decree and the future market rules. The adoption of these two texts is required to launch the pre-certification process of cross-border capacities and certification of foreign capacities, the objective being that these entities can at least participate in the December 2018 auction for delivery year 2019.

Finally, a deadline must be set for the launch of the streamlined procedure of cross-border participation on a border, to take into account the delays in the implementation of this solution. It is thus proposed that if a cooperation agreement with a cross-border transmission system operator is not reached by 1 June 2018, then the streamlined procedure is implemented on this border.

Figure 5. Provisional timetable for implementation of cross-border participation for the 2019 delivery year



ANNEX 1: ALTERNATIVE MODEL PRESENTED BY ENGIE IN CONSULTATION - EXTRACTS FROM ENGIE'S RESPONSE AT THE RTE PUBLIC CONSULTATION IN 2017²⁰

Extract from ENGIE'S reply to question 4 of the 2017 public consultation on cross-border participation in the French capacity market ("In your opinion, should the notion of "export margin" proposed by ENGIE be taken into account in the capacity certification process (additional de-rating), and why?")

The key element for taking into account cross-border participation is the 'interconnector de-rating' factor as put forward by the Directorate-General for Competition in annex 2 of the sector inquiry on capacity

mechanisms. This aim of this factor is to summarise the joint contribution of interconnections and cross-border capacities during scarcity periods. It thus estimates the expected actual contribution of cross-border capacities to the capacity mechanism and reduces the demand for "domestic" capacity.

The DG for Competition defines the process for participation of cross-border capacities in a few steps in its sector inquiry on capacity mechanisms, see the following excerpt from annex 2 (section 6.1) of the working document²¹:

6.1 High level approach

One way to achieve the above benefits could be to:

- a) Define the way in which the amount of imports that can be relied upon at times of scarcity in each zone operating a capacity mechanism should be calculated (interconnector de-rating);
- b) Identify the capacity providers that could be eligible to provide capacity into a capacity mechanism in a neighbouring market;

²⁰. These extracts were expanded on by ENGIE to provide a freestanding publication of its proposal in the RTE report.

²¹. Commission Staff Working Document Accompanying the Final Report of the Sector Inquiry on Capacity Mechanisms, 30 November 2016, SWD(2016) 385, http://ec.europa.eu/competition/sectors/energy/capacity_mechanism_swd_en.pdf

- ▶ *In point (a) of section 6.1, the DG for Competition identifies the need to assess the effective contribution of a cross-border market to the security of supply of the importing capacity market, via the concept of interconnector de-rating;*
- ▶ *In point (b) of section 6.1, the DG for Competition indicates that a subset of the units of the export market can be a candidate for the actual export of capacity in scarcity situations. This identification legitimises ENGIE's approach described in this reply to question 4 of the consultation.*

In practice, and regardless of the underlying market designs, in a simplified situation with two zones A and B, installed capacity can be classified into three categories. The first corresponds to entities able to meet the capacity demand of A, the second to those able to meet the capacity demand of B and the third is made up of the shared capacities between A and B, which can meet the required capacity in A and/or B in the event of multiple capacity demands.

As illustrated in this simplified situation, and confirmed by the calculation of the interconnector de-rating, in practice, not all cross-border capacities (for example, located in zone B) can effectively contribute to the security of supply of a country (for example, zone A) during scarcity events. Only "shared" capacities, which allow the export of a certain margin of capacity (for example from B to A), may be considered.

If all of the cross-border capacity (100% taken into account) could effectively participate in the certification process, in other words if the full amount of this capacity can be relied on at times of scarcity to contribute to the capacity requirement in the initial country, the interconnector de-rating would be equal to 0. This is not the case in RTE's analysis across all of the neighbouring countries.

While it is true, therefore, to say that all of the cross-border capacity (for example, located in zone B) is required to build the export margin (zone B), it is inaccurate to assert that all of this capacity could (and even should) be remunerated in view of its effective availability for zone A.

It is therefore necessary to somehow identify which cross-border capacities effectively contribute to meeting the required capacity in the importing country

to ensure that only assets which actually contribute to its security of supply can be paid.

Failure to individually isolate the capacities with an effective contribution to the margin, and like the certification of renewable energy capacities (see capacity mechanism rules; lump certification of renewable generation), it is therefore necessary to introduce an "expected actual contribution to the export margin" factor per category of assets. This scaling factor applied to cross-border capacities is strictly analogous to the factor applied to national renewable energy capacities, for which the expected actual contribution to the national margin is restricted by the expected availability of underlying natural resources (hydraulic, wind or solar). The sole objective of this participation in the export margin factor calculated in a technologically neutral manner is to identify the actual contribution of cross-border units to France's security of supply.

If no participation in the export margin factor described above is in place, units with very different cost structures and expected contributions to the security of supply in France can bid competitively and indiscriminately. The interconnection tickets auction would therefore have a disproportionate demand in tickets in relation to the offer, determined on the basis of the actual contribution of the cross-border units to France's security of supply. In practice, this inconsistency would automatically lead to the exclusion of marginal cross-border units in favour of infra-marginal cross-border units which do not actually contribute to France's security of supply. This exclusion of marginal cross-border units in stress situations would imply that the objective pursued by the cross-border aspect of the capacity market could not be met: the financial flows would have been invested at a loss and France's security of supply would in fact be at risk since cross-border units actually contributing to the export margin would not be remunerated.

Taking into account of an "expected actual contribution to the export margin" factor is not aimed at or does not lead to granting greater remuneration for cross-border generation (compared to remuneration of the interconnector). On the one hand, it is in fact a model of availability rather than supply – only the availability of the associated capacity needs to be verified –. Remuneration should in no way be dependent on actual energy flows (which are a consequence of the electricity markets). On the other hand, this factor is

necessary to ensure consistency with the calculation and implementation of the interconnector de-rating factor (as explained above).

The proposal for taking into account cross-border capacities developed by ENGIE incorporates several factors to define the certified capacity imported in the French capacity market:

- i. The availability factor of each unit wishing to explicitly participate in the French capacity market, subject to checks on its actual power;
- ii. A (normative) factor of actual contribution to France's security of supply, which reflects the common modes of failure and the participation in the export margin, and is defined in a technology-neutral way, for each of the units or classes of units of the market exporter.

ENGIE emphasizes that the analysis which led to the calculation of the 'interconnector de-rating' factors help identify, through a sensitivity analysis, "actual contribution to the export margin" factors per class of assets. Periodic calculation of interconnector de-rating factors in the context of stochastic studies of the adequacy between supply and the demand takes into account the evolution of the generation, storage and management of the demand in the analysis.

To implement a market mechanism which takes into account, from now and in a coherent manner, physical, industrial and economic risks, as described in ENGIE's reply, the pre-certification process proposed by RTE should at a minimum be adapted to inform, in advance of the auctions, the owners of cross-border units candidates for actual capacity associated with their asset, given the factors (i) and (ii) described above.

Following ENGIE's proposal, only the principles described by the DG for Competition in its approach to cross-border participation (see section 6.1 of Annex 2 of the staff working document accompanying the sector inquiry) would be applied by RTE to cross-border units, participation imposed in the DG for Competition's decision on the French capacity market.

Extract from ENGIE's response to question 6 of the 2017 public consultation on cross-border participation in the French capacity market ("What do you think of the proposed arrangements for managing interconnection tickets following the initial border auction? How many rebalancing auctions should you organize (timing?) ?")

"Given that the obligation to acquire capacity certificates, in France or abroad, (and the associated penalties) is on obligated parties in France, these same obligated parties should be able to choose to acquire interconnection tickets, and then certify foreign capacities."

The analysis of the constraints, i.e. de-rating of interconnectors, participation in the export margin and availability of the unit, remains of interest and application in the case where the certification of candidate cross-border units would be carried out by obligated parties of the French capacity market.

A legal study has shown that, in the current state of the law, restricting the sale of access tickets to obligated parties in France is not illegal.

ANNEX 2: ALTERNATIVE MODEL PRESENTED BY DIRECT ENERGIE IN CONSULTATION – EXTRACTS FROM DIRECT ENERGIE’S RESPONSE AT THE RTE PUBLIC CONSULTATION IN 2014

Extract from DIRECT ENERGIE’s reply to questions 3 and 4 of the 2017 public consultation on cross-border participation in French capacity market (“In the pre-certification proposal of RTE, generation/demand capacities are not subject to an additional de-rating linked to the saturation of the interconnections (element already taken into account in the calculation of the volume of interconnection tickets allocated per border): do you think that the saturation of the interconnections should be taken into account a second time?”/“In your opinion, should the notion of “export margin” proposed by ENGIE be taken into account in the capacity certification process (additional de-rating), and why?”

“Under a marginal approach such as the one that prevailed in the design of the capacity mechanism in France, the capacity value of a cross-border country is borne, in scarcity periods in France,

- ▶ *either by the interconnection when it is saturated in imports: the interconnection is then the limiting factor and an increase (respectively a decrease) of the latter will improve (respectively degrade) security of supply in France;*
- ▶ *or otherwise by foreign capacities: available foreign capacities are then the limiting factor, and an increase (respectively decrease) of the latter could improve (respectively degrade) the security of supply in France.*

The mechanism in place must therefore properly allocate capacity values between interconnectors and foreign capacity operators in order to send the right economic signals to the various market participants. [...]

In non-saturated situations, foreign capacities must not be made to bear the cost of interconnection tickets. Indeed, if the interconnection import flow to France is not saturated during scarcity periods in France, adding an additional plant in France or abroad contributes identically to France’s security of supply: a foreign plant should therefore receive the same capacity remuneration as a plant located in France. Also,

- i. in order for a power plant in France and a power plant abroad to receive remuneration proportional to their respective contributions to the security of supply of France,*
- ii. and for an obligated party in France to be able to cover its capacity obligation interchangeably with capacities in France or abroad (proportionate to their respective contribution to the security of supply) [...],*

priority allocation to these interconnection tickets must be given to

- ▶ *obligated parties in France,*

- ▶ *with a positive capacity track record in the foreign country, that is to say having an 22 "upstream-downstream" positive capacity track record. This provision, which encourages market players to ensure the security of supply of neighbouring countries before being able to "export" their capacities, allows an evolution towards a future European integration of capacity mechanisms.*

In conclusion, Direct Energie proposes that obligated parties in France with surplus capacities abroad should be allocated interconnection tickets:

- i. proportional to the probability that import of the interconnection is not saturated,*
- ii. and proportionally to their positive capacity track record.*

For convenience, this preferential allocation of interconnection tickets could take the form of ex-post financial compensation (once the upstream/downstream capacity track record of participants is known), the number of tickets to allocate being calculated ex-ante according to a probabilistic forecast study.

For example: if, for a given bordering country with an interconnection of 1000 MW importing to France, the RTE generation adequacy report shows a saturation rate of 80% for this interconnection during scarcity situations in France, market participants with a positive capacity track record in the foreign country would be allocated free of charge (or ex-post financial compensation) $1000 \text{ MW} \times 20\% = 200 \text{ MW}$ of interconnection tickets, the remaining 800 MW being sold at auction by the TSOs. [...]"

22. In practical terms, the upstream position could be determined, per market participant, depending on the power of dispatchable power plants (renewable facilities which already have a subsidy scheme to ensure profitability), and the downstream position according to a peak consumption calculation, similar to that made by RTE in generation adequacy reports (see for example pages 96 to 100 of the 2016 generation adequacy report).



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