
Explanatory document

**ENTSO-E proposed methodologies,
common rules and terms of reference
related to cross-border participation in
capacity mechanisms**

31 January 2020

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Introduction

This paper accompanies the proposed draft methodologies, common rules and terms of operation related to cross-border participation in capacity mechanisms (CM) as requested to ENTSO-E by Article 26(10) of Regulation 2019/943. The aim of this paper is to further explain the options and main criteria considered by ENTSO-E when drafting this proposal in the context of the public consultation open from Friday 31st January to Friday 13th March included.

Capacity mechanisms in the European Union

In the light of concerns about resource adequacy, some European Union (EU) Member States (MSs) have introduced capacity mechanisms, which aim at rewarding the availability to deliver energy in order to ensure that electricity supply can match peak load events, in the medium and long term. All existing mechanisms were notified, approved, or will be approved as State Aid instruments compatible with EU law, and therefore evaluated as proportionate means to ensure that the provision of capacities that are necessary to ensure security of supply in an economically viable manner.

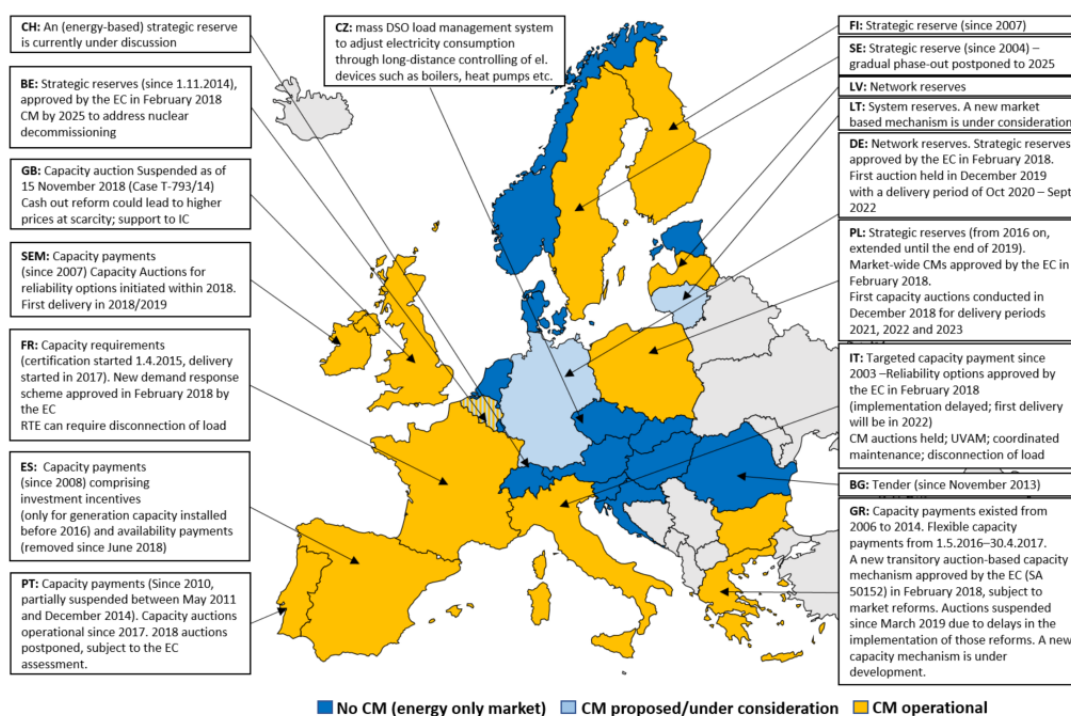


Figure 1: Map of Capacity Mechanisms in the EU (Source: ENTSO-E elaboration based on ACER market monitoring report]

The witnessed diversity of capacity mechanisms is representative of market designs aiming at addressing differentiated security of supply issues (e.g. load sensitivity to temperature variation, MSs relying significantly on imports, MSs with low import capacity, seasonal peak load, high share of renewable energies) **in a proportionate manner**, which is ensured by all checks and balances foreseen by the State Aid Guidelines and by the Article 21 of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity, thereafter referred to as Internal Energy Market (IEM) Regulation.

The IEM Regulation introduces at Article 26 paragraph 1 an **obligation to enable direct cross-border participation of capacity providers located in Member States which are electrical neighbours**. Article 26 paragraph 2 of the IEM Regulation indicates that, where foreign capacity is capable of providing equivalent technical performance to domestic capacities, direct cross-border participation must be implemented at the earlier date between:

- 4th July 2023;
- 2 years after the date of ACER's approval of the methodologies detailed in this document.

In this context of implementing direct cross-border participation, the IEM Regulation introduces at Article 26 paragraph 11, common rules, methodologies and terms of operation to facilitating the implementation of direct participation in capacity mechanisms; these texts must be drafted by ENTSO-E and submitted to the approval of ACER by 5th July 2020. The present document aims at detailing the content of ENTSO-E's draft common rules, methodologies and terms of operation, which are being publicly consulted until Friday 13th March 2020 included in a unique draft proposal. The present document details the legal framework based upon which these rules and methodologies were drafted, some general provisions, and then follows the order of the Article 26 paragraph 11 of the IEM Regulation:

1. Legal Framework;
2. General provisions;
3. Methodology for calculating the maximum entry capacity for cross-border participation;
4. Methodology for sharing cross-border revenues in capacity mechanism;
5. Common rules for the carrying out of availability checks;
6. Common rules for determining when a non-availability payment is due;
7. Terms of the operation of the registry;
8. Common rules for identifying capacity eligible to participate in capacity mechanism.

A transition period, not detailed in this document, will be required to implement the set of rules, methodologies and terms of operation.

Key principles

The proposal relies on two key principles, which derive from the IEM Regulation:

- **The principle of non-discrimination:** In accordance with Article 22 of the IEM Regulation, which enumerates market design principles that capacity mechanisms must be compliant with, capacity mechanisms must “*select capacity providers by means of a transparent, non-discriminatory and competitive process*”. In this regard and in order to create a level playing field for every market participant, it is proposed to **ensure that eligibility examination and availability checks are carried out as equivalently as possible for market players participating to a given capacity mechanism, regardless of their location**. Therefore, the set of draft rules, methodologies and terms of operation does not intend to detail specific technical rules that will drive the processes of eligibility examination and availability checks, but rather aims at providing common definitions and processes to facilitating the necessary coordination between TSO and CM operators for implementing direct cross-border participation ;
- **Fostering the coordination between TSOs and CM operators:** Regarding the implementation of direct participation, the IEM Regulation foresees an operational role for the TSO where the capacity is located. Notably, Article 26 paragraph 10 states that the TSO where the foreign capacity is located must carry out the eligibility examination and the availability checks. Implementing direct cross-border participation therefore relies on both the TSO where the capacity provider is located and the CM Operator. The set of draft rules and methodologies aims at **defining clear roles for every stakeholder involved in the implementation of the cross-border participation while facilitating their coordination**. In this regard, Article 26 paragraph 15 of the IEM Regulation foresees that ENTSO-E shall set up and operate a registry where eligible capacity providers are registered. This registry must be created by 5th July 2021. In order to meet this ambitious deadline while targeting the binding provisions, notably specified at Article 26 paragraph 10.a), the European registry is yet considered as a coordination tool between TSOs and CM Operators, and thus complementary with existing national registries.

1. Legal Framework

Article 26 of the IEM Regulation constitutes the legal framework:

“ [...] ”

4. Cross-border participation in capacity mechanisms shall not change, alter or otherwise affect cross-zonal schedules or physical flows between Member States. Those schedules and flows shall be determined solely by the outcome of capacity allocation pursuant to Article 16.

5. Capacity providers shall be able to participate in more than one capacity mechanism. Where capacity providers participate in more than one capacity mechanism for the same delivery period, they shall participate up to the expected availability of interconnection and the likely concurrence of system stress between the system where the mechanism is applied and the system in which the foreign capacity is located, in accordance with the methodology referred to in point (a) of paragraph 11.

6. Capacity providers shall be required to make non-availability payments where their capacity is not available. Where capacity providers participate in more than one capacity mechanism for the same delivery period, they shall be required to make multiple non-availability payments where they are unable to fulfil multiple commitments.

7. For the purposes of providing a recommendation to transmission system operators, regional coordination centres established pursuant to Article 35 shall calculate on an annual basis the maximum entry capacity available for the participation of foreign capacity. That calculation shall take into account the expected availability of interconnection and the likely concurrence of system stress in the system where the mechanism is applied and the system in which the foreign capacity is located. Such a calculation shall be required for each bidding zone border. Transmission system operators shall set the maximum entry capacity available for the participation of foreign capacity based on the recommendation of the regional coordination centre on an annual basis.

8. Member States shall ensure that the entry capacity referred to in paragraph 7 is allocated to eligible capacity providers in a transparent, non-discriminatory and market-based manner.

9. Where capacity mechanisms allow for cross-border participation in two neighbouring Member States, any revenues arising through the allocation referred to in paragraph 8 shall accrue to the transmission system operators concerned and shall be shared between them in accordance with the methodology referred in point (b) of paragraph 11 of this Article or in accordance with a common methodology approved by both relevant regulatory authorities. If the neighbouring Member State does not apply a capacity mechanism or applies a capacity mechanism which is not open to cross-border participation, the share of revenues shall be approved by the competent national authority of the Member State in which the capacity

mechanism is implemented after having sought the opinion of the regulatory authorities of the neighbouring Member States. Transmission system operators shall use such revenues for the purposes set out in Article 19(2).

10. The transmission system operator where the foreign capacity is located shall: (a) establish whether interested capacity providers can provide the technical performance as required by the capacity mechanism in which the capacity provider intends to participate, and register that capacity provider as an eligible capacity provider in a registry set up for that purpose; (b) carry out availability checks; (c) notify the transmission system operator in the Member State applying the capacity mechanism of the information it acquires under points (a) and (b) of this subparagraph and the second subparagraph. The relevant capacity provider shall notify the transmission system operator of its participation in a foreign capacity mechanism without delay.

11. By 5 July 2020 the ENTSO for Electricity shall submit to ACER: (a) a methodology for calculating the maximum entry capacity for cross-border participation as referred to in paragraph 7; (b) a methodology for sharing the revenues referred to in paragraph 9; (c) common rules for the carrying out of availability checks referred to in point (b) of paragraph 10; (d) common rules for determining when a non-availability payment is due; (e) terms of the operation of the registry as referred to in point (a) of paragraph 10; (f) common rules for identifying capacity eligible to participate in the capacity mechanism as referred to in point (a) of paragraph 10. The proposal shall be subject to prior consultation and approval by ACER in accordance with Article 27.

12. The regulatory authorities concerned shall verify whether the capacities have been calculated in accordance with the methodology referred to in point (a) of paragraph 11.

13. Regulatory authorities shall ensure that cross-border participation in capacity mechanisms is organised in an effective and non-discriminatory manner. They shall in particular provide for adequate administrative arrangements for the enforcement of non-availability payments across borders.

14. The capacities allocated in accordance with paragraph 8 shall be transferable between eligible capacity providers. Eligible capacity providers shall notify the registry as referred to in point (a) of paragraph 10 of any such transfer.

15. By 5 July 2021 the ENTSO for Electricity shall set up and operate the registry referred to in point (a) of paragraph 10. The registry shall be open to all eligible capacity providers, the systems implementing capacity mechanisms and their transmission system operators.”

2. General provisions

General provisions notably include all definitions used in the set of rules and methodologies. Key concepts are hereby introduced:

- Availability: As mentioned in the introduction, the capacity mechanism aims at providing remuneration for capacity provider available to deliver power when needed. It is defined as the possibility of Activation of the capacity contracted in the capacity mechanism and concerns:
 - a) the availability in the energy and/or balancing market and/or ancillary services markets;
 - b) for capacities contracted in the capacity mechanism but not participating to the market, the availability to deliver energy upon request of the TSO and/or in particular system conditions.
- Activation: Defined as a process in which the capacity contracted in the capacity mechanism delivers energy upon request by the transmission system operator and/or in particular system conditions during the Delivery period;
- CM Operator: a capacity mechanism is not necessarily operated by the TSO located where it applies. Therefore, the stakeholder signing capacity contracts with the capacity provider is referred to as CM Operator;
- Delivery Period: period during which availability checks can be carried out;
- Entry Capacity: it is the capacity expressed in MW that can be allocated to eligible foreign capacity for participation in a capacity mechanism and its total amount can never exceed the Maximum Entry Capacity;
- Reference Period: subset of the Delivery Period during which the availability checks are carried out.

So as to facilitating the implementation of direct cross-border participation, the General Provisions section also introduces a securing process to cover the operational and investment costs arising from the tasks listed at Article 26.10 of the IEM Regulation, among which examining eligibility and carrying out eligibility checks. These provisions aim at:

- neutralizing the cost impact for the TSO where the capacity is located;
- ensuring the proportionality of such costs through the cost approval by both National Regulatory Authorities involved;

- ensuring that these costs are covered, whenever possible, in the same system than for domestic capacities, through the decision of the NRA where the Capacity Mechanism applies.

3. Methodology for calculation maximum entry capacity

The methodology for calculating the maximum entry capacity for cross-border participation to capacity mechanisms shall “*calculate [...] the maximum entry capacity available for the participation of foreign capacity. That calculation shall take into account the expected availability of interconnection and the likely concurrence of system stress in the system where the mechanism is applied and the system in which the foreign capacity is located*”, as stipulated in Article 26(7) of Regulation (EU) 2019/943.

Therefore, the methodology shall determine the expected contribution of imports that a country or bidding zone can rely upon in moments of stress, i.e. during which these imports are needed to ensure its adequacy. Hours relevant for the calculation shall be hours during which the market will direct available power to the bidding zone considered and the available resource (including generation, storage, demand flexibility and imports), is not enough to cover the demand of the studied bidding zone, hence so-called as “scarcity” hours.

The approach for calculating the maximum entry capacity is defined in the Article 6 of the draft proposal. It is calculated as the average of imports during scarcity hours and shall be expressed in MW. The present explanatory note aims to highlight the Methodology with some examples on specific technical aspects.

It should be noted that, compared to the other methodologies, common rules and terms of operations included in ENTSO-E proposal as per Article 26(10) of the IEM Regulation, the level of maturity of the methodology for calculating the maximum entry capacity for cross-border participation is less advanced. This is due to the insufficient resource availability experienced by ENTSO-E’s team responsible for delivering the new mandates as per Article 23 of the IEM Regulation, namely the European Resource Adequacy Assessment (ERAA) methodology, as well as the Value of Lost Load (VOLL), Cost of New Entrants (CONE) and the reliability standards. As anticipated to ACER and the EC, the necessary prioritisation of the work for these deliverables affected the progress on the development of the methodology for calculating the maximum entry capacity for cross-border participation. Nevertheless, understanding the strong links with the other five deliverables related to cross-border participation to capacity mechanisms, and to facilitate the participation of stakeholders to the public consultation, we have decided to include this “working draft” of the methodology for calculating the maximum entry capacity for cross-border participation in this document rather than delaying its publication and consultation to a later stage. We are committed to increase the efforts to improve the clarity and robustness of this methodology in the coming weeks and to respond to stakeholders’ questions starting from the public workshop planned on 12 February.

3.1. Complements about simultaneous scarcity

During simultaneous scarcity, the contribution is expected to be lower than the maximum possible transmission capacity. The flow between two countries in scarcity is defined by the curtailment sharing principle within the market coupling algorithm. Therefore, a low contribution, lower than the maximum possible transmission capacity, is likely to be indicative of an important contribution of simultaneous scarcity hours within all the scarcity hours considered.

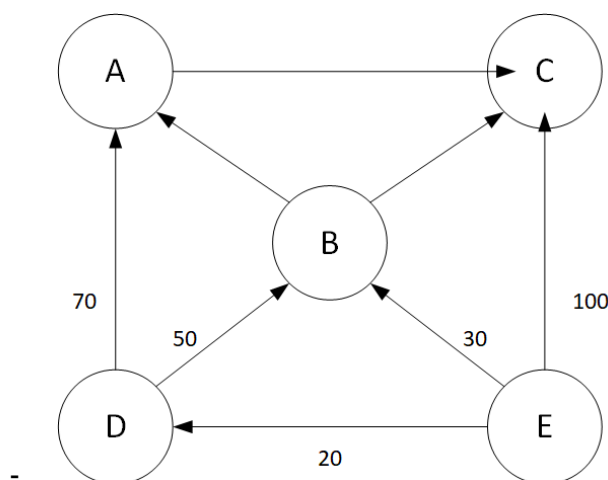
3.2. Cross-border contribution under flow based

The methodology is applicable for both NTC and Flow Based approaches. While calculating the contribution under the NTC approach is rather straight forward, as defined in the Methodology, the present paragraph focuses on a pedagogical fictive case under Flow-based approach.

Regarding the contribution of bidding zones to adequacy under Flow-based, the following example is provided:

- i) Five countries/bidding zones are considered
- ii) Countries/bidding zones “A”, “B” and “C” are importing
- iii) Countries/bidding zones “D” and “E” are exporting
- iv) “A”, “C”, “D” and “E” are all neighbors to “B” within the same Capacity Calculation Region (CCR)
- v) The contribution per border into “B” for this given hour is as follows:
 - $A \rightarrow B = 0$
 - $C \rightarrow B = 0$
 - $D \rightarrow B = B_{import} \times \frac{D_{export}}{D_{export} + E_{export}}$
 - $E \rightarrow B = B_{import} \times \frac{E_{export}}{D + E_{export}}$

A explicit numerical example is provided:



In the figure, $B_{import} = 80$, $D_{export} = 100$, and $E_{export} = 150$.

We now have the contribution from D to B:

$$D \rightarrow B = B_{import} \times D_{export} / (D_{export} + E_{export}) = 80 \cdot 100 / (100 + 150) = 32$$

and from E to B:

$$E \rightarrow B = B_{import} \times E_{export} / (D_{export} + E_{export}) = 80 \cdot 150 / (100 + 150) = 48$$

In this case, the contribution from E is higher, even if its direct export to B is lower.

4. Methodology for sharing the revenues

4.1. Subject and scope

Article 26(1) of the IEM Regulation requires that “*capacity mechanisms other than strategic reserves and where technically feasible strategic reserves shall be open to direct cross-border participation of capacity providers located in another Member State*”. Article 26(2) defines that “*Member States shall ensure that foreign capacity capable of providing equivalent technical performance to domestic capacities has the opportunity to participate in the same competitive process as domestic capacities*”. Article 26(11) mandates ENTSO-E of developing several methodologies to allow efficient direct cross-border participation to capacity mechanism. In particular, Article 26(11) in point (b) mandates ENTSO-E to develop a methodology for the sharing of the revenues referred in paragraph 9 of the same article, hereafter the “Revenue Sharing Methodology”.

This Revenue Sharing Methodology relies on concepts determined in the methodology following Article 26(11) point (a) on the calculation of the maximum entry capacity for cross-border participation as defined in Article 26 (7): “*For the purposes of providing a recommendation to transmission system operators, regional coordination centres [...] shall calculate on an annual basis the maximum entry capacity available for the participation of foreign capacity. That calculation shall take into account the expected availability of interconnection and the likely concurrence of system stress in the system where the mechanism is applied and the system in which the foreign capacity is located. Such a calculation shall be required for each bidding zone border. [...]*”

The further use of any revenues resulting from the sharing following this Revenue Sharing Methodology is out of scope of this Revenue Sharing Methodology as also stipulated in Article 26 (9) with the explicit referral on this matter to article 19(2) of the IEM Regulation.

The remainder of this section refers to Article 11 of the draft proposal.

Capacity mechanisms open for direct cross-border participation by foreign capacity require the allocation of the maximum entry capacity to eligible foreign capacity providers. To the extent this allocation process can result in a revenue, this Revenue Sharing Methodology aims at describing how this revenue could be shared among the concerned TSOs.

In this respect Article 26(9) of the IEM Regulation provide the part of legal basis of this Revenue Sharing Methodology. It identifies in general terms the revenues considered by the Revenue Sharing Methodology as well as the decision process to be followed by the involved entities and where in this process this Revenue Sharing Methodology plays a role. On the latter aspect, Article 26(9) states that the Revenue Sharing Methodology can be applied for the sharing of the revenues where capacity mechanisms allow for direct cross-border participation by foreign capacity in two neighbouring Member States over the same Delivery Period in accordance with Article 26 (9) of the IEM Regulation. It also

indicates that this Revenue Sharing Methodology does not need to be applied for the sharing of revenues if the neighbouring Member State does not apply a capacity mechanism or applies a capacity mechanism which is not open to direct cross-border participation by foreign capacity over the same Delivery Period, in accordance with Article 26 (9) of the IEM Regulation. In all cases there remains a role for the concerned NRAs or the competent national authority. In case of two capacity mechanisms open for direct cross-border participation by foreign capacity in two neighbouring Member States over the same Delivery Period, the NRAs can jointly agree another sharing key or another methodology than the one resulting from this Revenue Sharing Methodology. If, however, the neighbouring Member State does not apply a capacity mechanism or applies a capacity mechanism which is not open to direct cross-border participation by foreign capacity over the same Delivery Period, the competent national authority of the Member State applying the capacity mechanism approves the sharing key or another methodology after having sought the opinion of the neighbouring NRA.

For the sake of clarity, the Revenue Sharing Methodology explicitly excludes the application of this Revenue Sharing Methodology in case of interconnectors directly participating in the capacity mechanism in the sense of Article 26(2) of the IEM Regulation. In such case the revenue meant by Article 26(9) for sharing by this Revenue Sharing Methodology is fully integrated in the capacity price obtained by the interconnector in the capacity mechanism and can as such not be separated from the capacity price, neither does it appear necessary to foresee a further sharing rule in such case as any revenues to interconnectors are already covered by appropriate regulatory frameworks and as this direct participation rule is a temporary measures that is allowed only until at the earlier date between:

- 4th July 2023;
- 2 years after the date of ACER's approval of the methodologies detailed in this document.

4.2. General principles

This section refers to Article 11 of the draft proposal.

The methodology for sharing cross-border revenues described in the remainder of the articles is based on a number of principles:

- A border per border approach is followed in line with Article 26 (7) addressing the topic in a border per border manner. This approach is coupled with a direction per direction approach as, during adequacy relevant moments, the contribution of one Member State to a neighbouring Member State is not necessarily symmetrical, e.g. due to differences in margins in available resources or underlying fundamentals (e.g. summer peak versus winter peak). The way of sharing described further is therefore to be read as applying on one border, in one direction.

- The sharing of revenues resulting from a capacity mechanism should provide appropriate incentives for the development of transmission capacity. This implies on the one hand that when during adequacy-relevant moments more transmission capacity on the concerned border would lead to more imports in the CM country and thereby increase resource adequacy, an incentive is to be provided to further develop this transmission capacity. On the other hand, it also means that when adding more transmission capacity on the concerned border would not result in a greater cross-border contribution on those adequacy-relevant moments, no such incentive should be provided as it would not be appropriate. The latter can for instance occur between two countries with high likelihoods of concurring system stress events, i.e. simultaneous scarcity. Although there may be ample transmission capacity available, the probability that the interconnection capacity will be the limiting factor when contributing to the adequacy of the Member State where the Capacity Mechanism apply will be small, since they will often be experiencing system stress at the same time.
- An appropriate indicator for the above assessment of whether more transmission capacity will lead to a higher contribution during adequacy-relevant moments is the likelihood of simultaneous scarcity for the two concerned Member States. This likelihood is an output that can be taken from the European Resource Adequacy Assessment that ENTSO-E has to carry out following Article 23 of the IEM Regulation and which benefits from an integrated approach at European level and a strong governance process involving public consultation and ACER involvement and approval.
- In case the Maximum Entry Capacity is not fully allocated to eligible foreign capacity, this is a sign that the market does not demand more transmission capacity during those adequacy-relevant moments and therefore no incentive for further developing this transmission capacity for those moments is to be provided.
- Functioning independently from the normal energy market functioning, the determination of the revenue to be considered for sharing and the sharing key itself take place after the allocation process of the Maximum Entry Capacity has taken place and should not await the actual delivery period, which may in several cases only be a number of years later. Such an approach enables to provide long-term visibility on TSOs' revenues.

4.3. Determination of the total revenue considered for sharing

This section refers to Article 12 of the draft proposal.

For a delivery period, two neighbouring Members States sell so-called "CM access tickets" or "tickets" to eligible foreign capacity that represent an access right to participate directly in a neighbouring capacity mechanism. The amount of tickets proposed during the auction equals the Maximum Entry

Capacity as determined following Article 26 (7) and the methodology foreseen by Article 26 paragraph 11 (a).

Such tickets are allocated to eligible foreign capacity by means of a non-discriminatory, market-based allocation mechanism. Typically, two kind of mechanisms can be distinguished (similarly to the allocation mechanisms of cross-border capacity in the energy market): implicit and explicit allocation. Whereas in the former both the capacity product and the ticket are sold together, in the latter a separate mechanism is used to only sell the ticket. The choice for implicit and explicit allocation depends on the choices made in the context of a specific capacity mechanism. Note that in practice an implicit allocation can happen in a two-step manner, i.e. by means of a pre-auction preceding a main auction, but still the ticket and the capacity product are priced together by the eligible foreign capacity.

In case of an implicit allocation of tickets, the total revenue considered – to the extent all tickets have been allocated, i.e. there was enough market demand – is calculated as the Maximum Entry Capacity multiplied by the price difference between the price offered in the capacity mechanism by the last contracted (based on the offered price) capacity and the last contracted (based on the offered price) foreign capacity. For instance, if the Maximum Entry Capacity is 200MW and that the highest offer selected in the CM auction is 30k€/MW and the highest offer from foreign capacity from the concerned Member State is 21k€/MW the total revenue considered $200 \times (30\text{k€} - 21\text{k€}) = 1800\text{k€}$.

In case of an explicit allocation of tickets, the total revenue considered for sharing equals the total revenue directly resulting from the auctioning of the tickets.

4.4. Determination of the sharing key

This section refers to Article 13 of draft proposal.

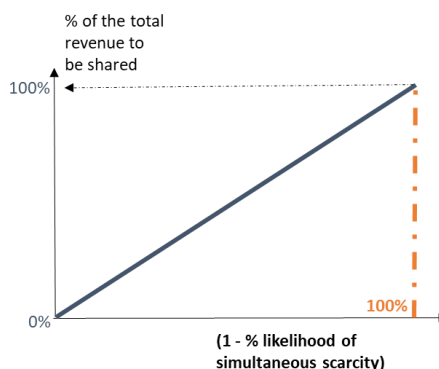
Having determined the total revenue considered for sharing following Article 12 of the draft proposal, two further steps are followed.

Firstly, following the above principles (cf. Article 11) and the stated need to provide appropriate incentives (and avoid distortive incentives) in cases where such additional incentive should be given, the relevant part of the revenue should go to those entities (i.e. TSOs) that develop the transmission capacity on that border.

Two options for this first step are being put forward in the public consultation by ENTSO-E:

- Option 1: The first option determines the part of the total revenue to be shared between those that develop transmission capacity on that border by multiplying the total revenue considered for sharing as defined in Article 12 of the draft proposal with *'1 minus the likelihood of*

simultaneous scarcity between the two concerned Member States’ as also illustrated in the conceptual graph below.



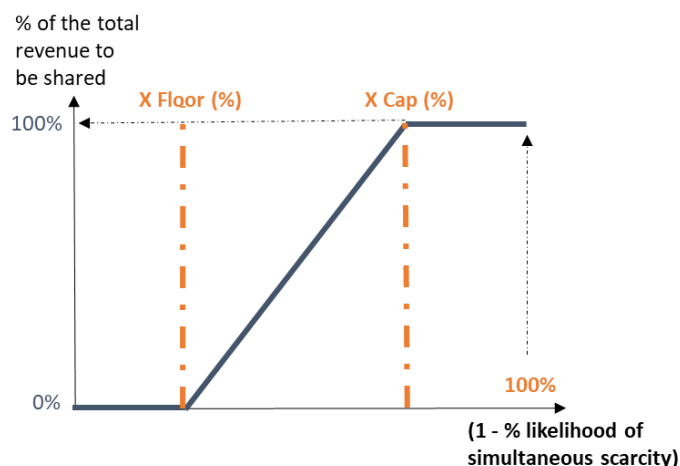
As stated earlier ‘*1 minus the likelihood of simultaneous scarcity between the two concerned Member States*’ resulting from the latest approved European Resource Adequacy Assessment is deemed an appropriate indicator for assessing when more transmission capacity could contribute to resource adequacy. Finally, being a ‘continuous’ parameter it avoids overly arbitrary or binary allocation rules. Where the probability of contribution is high i.e. the simultaneous scarcity rates are low to non-existent, a large (or the total) revenue shall be attributed to those developing transmission capacity. Where transmission capacity is not (or less often) the scarce resource, a smaller share of revenue is attributed to those parties.

The example at the end of this explanatory document illustrates this further.

- Option 2: The second option is similar to the first option but adds a cap and a floor related to the likelihood of simultaneous scarcity between the two concerned Member States. Such a cap and floor can be useful for, at least, two reasons:
 - to reflect that towards the extremes of the spectrum, the more extreme results of the underlying modelling results that are driven the output, are likely to be more prone to uncertainties and inaccuracies. Therefore, it may be opportune to not let those determine the sharing key and cut-off earlier by means of a cap/floor mechanism.
 - to further apply the underlying rationale of the methodology, i.e. whenever the transmission contribution during adequacy-relevant moments is deemed more significant (or not at all), a cap and floor reinforces this further by earlier giving (or limiting) a signal and attributing more revenues to the TSOs developing transmission capacity.

In view of the above arguments, a range of [5% ; 33%] for the floor and [66% ; 95%] is considered. Final values are yet to be further calibrated within this range in case this option is retained.

This option is conceptually illustrated in the graph below. The example at the end of this explanatory document illustrates this further.



Secondly, once the part of the total considered revenue to be attributed to the TSOs developing the transmission capacity has been determined, this part is to be shared among the involved TSOs. Whereas for several borders a 50-50 rule is straightforward as TSOs also invest in a 50-50 manner in transmission capacity, the rules in the Revenue Sharing Methodology also allow for deviations from 50-50 in case more than two TSOs are involved and/or different investment shares have been applied in the past and/or other entities have been investing in the past. This reasoning is similar to the application of the sharing of congestion rents as applied in the past in such cases.

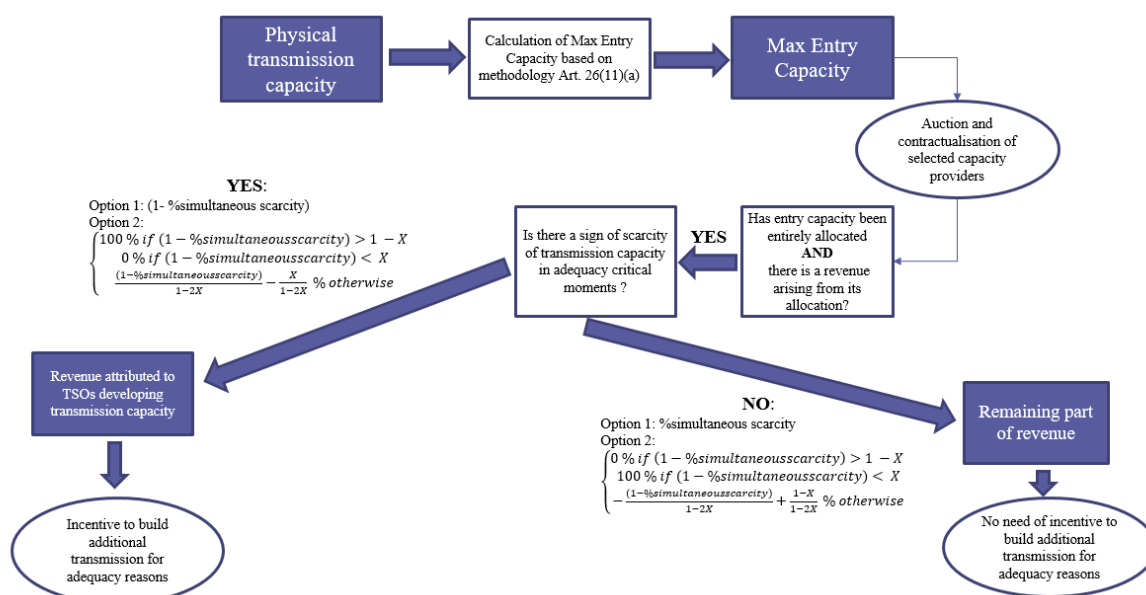
Finally, the part of the total considered that is *not* attributed to the TSOs developing transmission capacity remains with the TSO(s) of the Member State organising the capacity mechanism. Remember that the above sharing key is determined per direction and that in the most likely cases of application of this Revenue Sharing Methodology, i.e. in case of capacity mechanisms that are open for cross-border participation in two neighbouring Member States, the same approach is followed for the other direction and the concerned TSOs ‘switch roles’.

The sharing keys are to be determined each time entry capacity is being allocated to eligible foreign capacity. For instance, in case of allocations several years ahead a delivery period (e.g. in Y-4 as done in several capacity mechanisms), the sharing key is determined based on best available information at that moment. In relation to the above sharing key, this means using the latest approved European Resource Adequacy Assessment available at the moment of allocation of entry capacity. If at a later

stage (e.g. in Y-1) additional entry capacity would be allocated, the sharing key at that moment is to be based on the best available information at that moment, which may differ from an earlier sharing key as the situation could have evolved meanwhile.

4.5. Illustrative example

All in all, the several steps applied to decide how cross-border revenues should be shared, per border and per direction, can be described with the flowchart below:



5. Common rules for carrying out availability checks

5.1. Introduction

Article 26(1) of the Regulation (EU) 2019/943, hereafter referred to as “IEM Regulation”, requires that *“capacity mechanisms other than strategic reserves and where technically feasible strategic reserves shall be open to direct cross-border participation of capacity providers located in another Member State”*. Article 26(2) defines that *“Member States shall ensure that foreign capacity capable of providing equivalent technical performance to domestic capacities has the opportunity to participate in the same competitive process as domestic capacities”*. Article 26(11) mandates ENTSO-E of developing several methodologies to allow efficient direct cross-border participation to capacity mechanism. In particular, article 26(11) in points (c) mandates ENTSO-E to develop common rules to carry out availability checks.

The aim of capacity mechanisms is to ensure that sufficient capacities are able to deliver energy in case of peak demand. Therefore, when verifying the performance of contracted capacity, the objective is generally to measure the energy that could be delivered in case of stress event, rather than the energy actually delivered. This is identified as “Availability”, which means possibility of Activation of the capacity contracted in the capacity mechanism and concerns:

- a) the availability in the energy and/or balancing market and/or ancillary services markets;
- b) for capacities contracted in the capacity mechanism but not participating to the market (e.g. in case of strategic reserves), the availability to deliver energy upon request of the TSO and/or in particular system conditions;

In this regard, availability checks are needed in capacity mechanisms to establish if contracted capacity is made available during the delivery period¹ at the amount of availability obligation entailed by the capacity contract². The period, during which availability checks are actually led, is referred to as the “Reference period”.

Based on these checks it can be derived the non-availability volume³ and eventually non-availability payments, in the form foreseen by national CM rules, might be charged to the capacity provider.

¹ The delivery period is the period during which availability obligations can apply and is chosen by national authorities to cover the periods during which an adequacy stress event is likely.

² Such an obligation can vary during the delivery period (e.g. load-following obligation)

³ The non-availability volume represents the difference between the capacity subject to availability obligations and the capacity actually made available

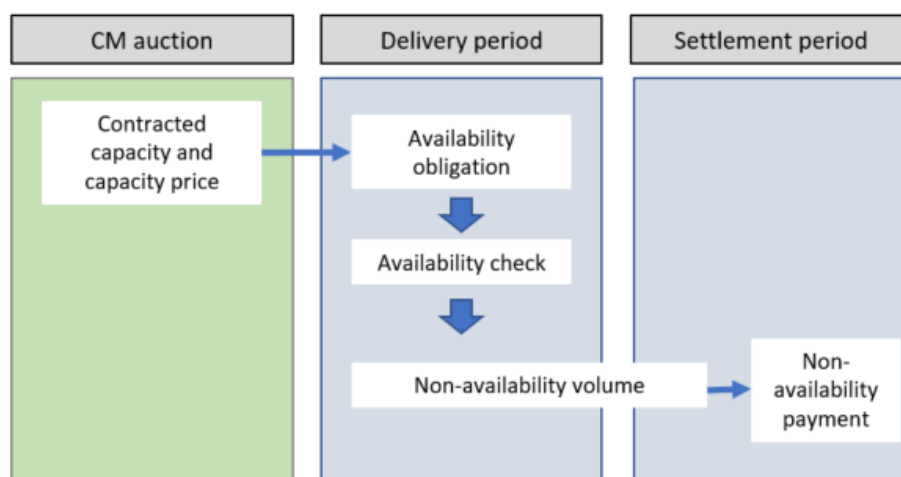


Figure 2: example for process for determining available capacity and penalties

It is key to notice that the product negotiated in different capacity mechanisms is not uniform, as it is the result of national design choices (e.g. centralized capacity auction, reliability options, decentralized obligations, ...), tailored-made to efficiently address specific security of supply issues, all of which are detailed in national CM rules and rely on the electricity market architecture in the Member State applying the capacity mechanism. Therefore, each CM has specific characteristics in terms of availability obligations and consequently availability checks and non-availability payments methodologies. This aspect is of utmost importance when addressing the task of defining common rules to carry out availability checks and determine when non-availability payments are due for foreign capacity providers, since they are necessarily linked to the rules applied for domestic capacity providers to avoid any discrimination. In drafting the common rules for carrying out availability checks, this aspect was taken into account seeking a balance between the fundamental need of harmonization on common principles and the equally important need of not imposing a single design choice to all capacity mechanisms around Europe, while maintaining a level-playing field for every capacity provider participating to a given capacity mechanism.

The core principle inspiring the common rules for carrying out availability checks was the principle of non-discrimination meaning that participation of foreign capacity should be subject to the *as-equivalent-as-possible* conditions applied to domestic capacities in order to avoid positive or negative discriminations. This principle derives from Article 22(1) letter (d) of the IEM Regulation “*select capacity providers by means of a transparent, non-discriminatory and competitive process*”.

5.2. Principle of non-discrimination

The section refers to Article 15 of the draft proposal.

The core principle of non-discrimination means that **foreign contracted capacity should be subject to availability checks carried as equivalently as possible as for domestic capacities.**

This equivalence means that foreign capacity providers should be subject to availability checks, if possible, with:

- the **same Delivery period**: the availability obligation can apply during the same hours;
- the **same Frequency**: if domestic capacity availability is checked every hour, or once a month, the same should apply to foreign capacity
- the **same methodology**: it means that foreign capacity should be deemed available or not according to the same criteria used for domestic capacity

In case it is not possible to achieve a perfect equivalence of calculation rules for carrying out availability checks due to different features of energy, ancillary services and balancing markets applying in the foreign country, availability checks for foreign contracted capacity should be carried out adapting methodologies foreseen by the CM rules for domestic capacity, provided that the performance checked can be still considered technically equivalent.

In Table 1, three examples of methodologies and data used for Availability checks in three representative European CMs (France, Italy, and UK) are presented. As it can be noticed, there can be different contract obligations (e.g. obligation on offer vs on energy delivery) depending on different electricity markets architecture (e.g. unit bidding allows the TSO to know offers in the energy and balancing market for each unit, while where portfolio bidding is applied TSOs do not have access to these data), different security of supply issues (e.g. limited to specific periods of the year due to seasonality of peak load) and several other factors. As a result, different methodologies are currently applied throughout Europe to evaluate availability. The principle of non-discrimination entails that foreign capacity participating to a given CM should be subject to the same obligations and availability checks applying to domestic capacity.

5.3. Roles of involved TSOs

The section refers to Article 16 of the draft proposal.

Article 16 defines roles of involved TSOs (the TSO applying the CM and the TSO of the system where foreign capacity is located).

Article 26(10) point (b) of the IEM Regulation states that **the task of carrying out availability checks for foreign contracted capacity lies upon the TSO of the system where foreign capacity is located**. The CM Operator, which signs a contract with every capacity provider participating to the CM, should act as a facilitator providing all information needed all over the processes:

- a. **Delivery period and availability obligation** valid for the capacity mechanism (when availability checks have to be done);

- b. **expected minimum frequency** of Availability checks (how often availability checks have to be done);
- c. **timeframes** for carrying out Availability checks and communicate results;
- d. Availability check **methodologies** (how availability checks have to be done);
- e. format of data requested and **data exchange process**;

Article 16 promotes the use of **bilateral agreements** to detail abovementioned points (a-e) and execute the common rules for carrying out availability checks. These technical agreements should be used also for creating an operational information flow among TSOs (and CM operators whenever different from the TSO) related to Capacity Market Units (CMUs) contracted in multiple capacity mechanisms. The facilitation of cross-border participation is likely to require new processes, procedures, IT infrastructure, etc. and given that it aims to facilitate a contractual relationship and consequent remunerations between a foreign capacity and a CM Operator, this ought to be well arranged among TSOs. Therefore bilateral agreements are useful and even necessary. Also, the organisation of the energy markets in the different Member States exhibit different practices, procedures and choices on data and energy market implementation (e.g. related to demand response or the checks on ancillary services). As capacity mechanisms should not impact the design of the energy market (and even more not the design of the market in a neighbouring Member State), detailing the operational specifics taking into account the necessary nuances in each Member State related to the execution of these common rules in a bilateral agreement among the involved TSOs contributes significantly to the implementation of the goals of Art. 26 of the IEM Regulation.

5.4. Application of Availability checks

The section refers to Article 17 of the draft proposal.

Article 17 aims at establishing **common principles and guidelines for Availability checks**, provided that specific rules and methodologies are defined at national level for each CM.

- Availability checks should not negatively affect system security nor increase the costs for maintaining the same level of system security (e.g. in case a TSO is requested to carry out activation tests on a given CMU at a given time, it should be allowed to postpone the test whereas this endangers system security);
- Contracted capacity should be subject to availability checks with a non-zero probability during the delivery period, also a minimum frequency of availability checks should be applied (e.g. at least once a year);
- Generally, availability of contracted capacity can be checked through:

- monitoring of availability in the market: (energy delivered, bids/commitments submitted, outage information, etc...); or
 - activation tests.
- Since activation tests are expensive, whenever monitoring of availability in the market already provides sufficient information, it should be prioritized for carrying out Availability checks;
 - Availability checks are not applied during suspension of market activities;

All in all, these general principles allow a framework for enabling effective cross-border participation without limiting national design choices.

5.5. Reporting to the involved NRAs

The section refers to Article 18 of the draft proposal.

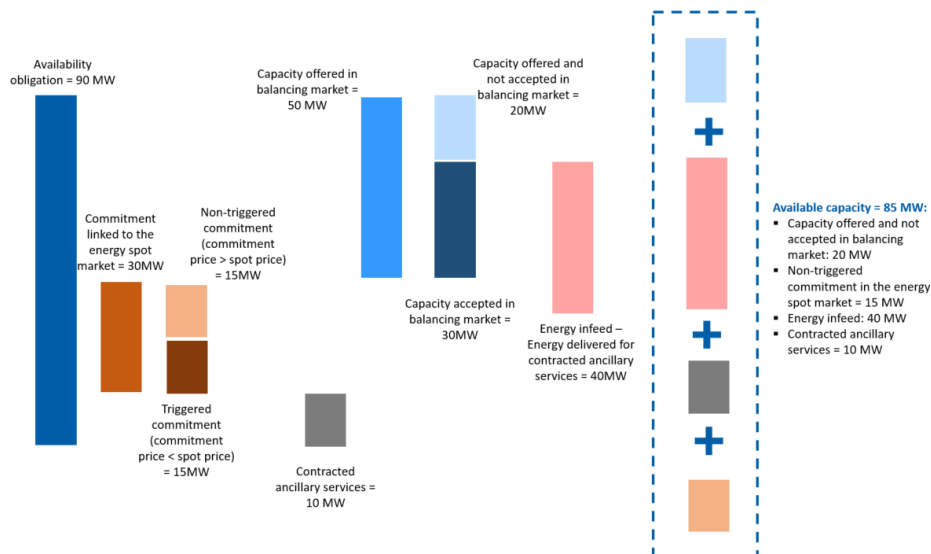
For the sake of transparency it is foreseen that the CM operator shares with the involved NRAs after every delivery period, or at least once a year, a report with aggregated data on average availability of foreign contracted CMUs.

Table 1: examples of availability checks in different EU CMs

France:

Data used for availability checks:

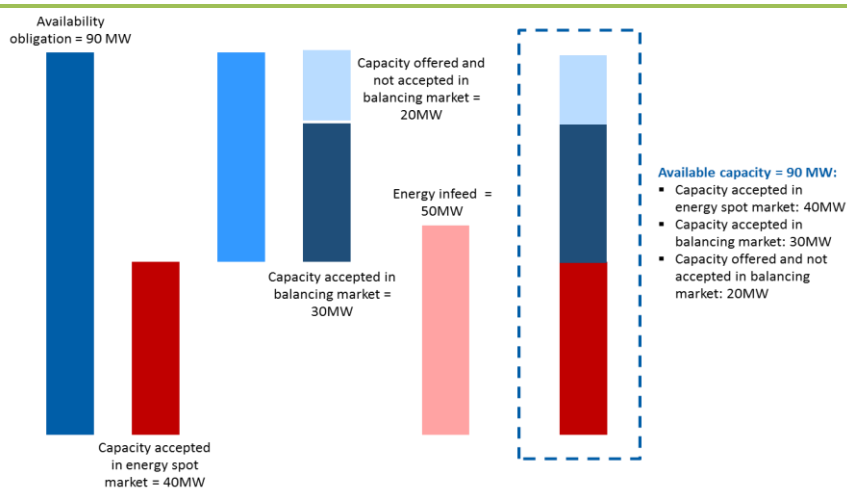
- energy infeed
- Commitments linked to the energy market
- Bids and accepted quantities in the balancing market
- Contracted ancillary services
- Activation tests (potential rebate applied)



Italy:

Data used for availability checks:

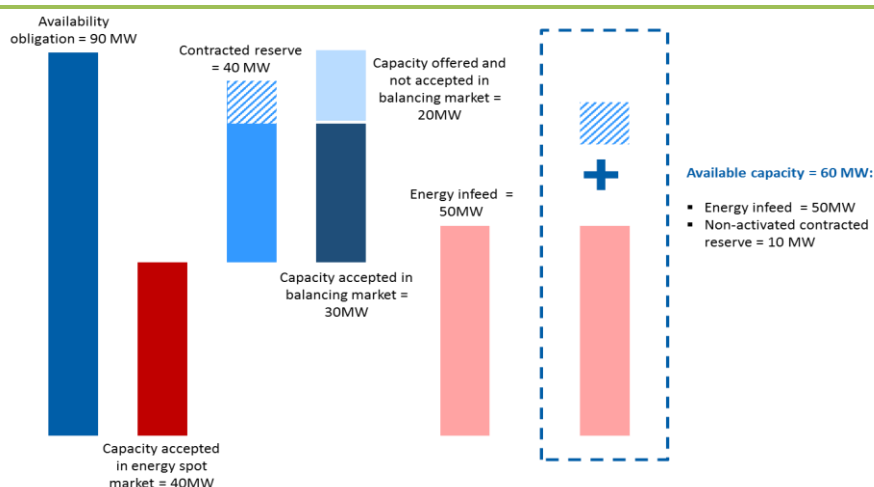
- bids and accepted quantities in the energy market
- bids and accepted quantities in the ancillary services and balancing market



UK:

Data used for availability checks:

- energy infeed
- contracted reserve volumes
- activation tests



6. Common rules for determining when a non-availability payment is due

6.1. Subject and scope

Article 26(1) of the IEM Regulation requires that “*capacity mechanisms other than strategic reserves and where technically feasible strategic reserves shall be open to direct cross-border participation of capacity providers located in another Member State*”. Article 26(2) defines that “*Member States shall ensure that foreign capacity capable of providing equivalent technical performance to domestic capacities has the opportunity to participate in the same competitive process as domestic capacities*”. Article 26(11) mandates ENTSO-E of developing several methodologies to allow efficient direct cross-border participation to capacity mechanism. In particular, article 26(11) (d) mandates ENTSO-E to develop common rules to determine when a non-availability payment is due.

A non-availability payment is any kind of penalty that might be due when the capacity obligation is not completely fulfilled, depending on the capacity mechanism rules. Different rules are applied in existing capacity mechanisms throughout Europe with a variety possibly higher than for availability obligations and availability checks.

For instance, some capacity mechanisms compute the average volume of non-availability over the entire delivery period, or a subset of it, and charge a non-availability payment based on the result (e.g. imbalance system in the French capacity mechanism). Some capacity mechanisms apply a differentiated penalty for each hour of non-availability, while others apply a threshold mechanism charging penalties if and only if the non-availability exceeds a certain amount (e.g. Italian capacity market). With reliability option mechanisms, non-availability payments are not necessarily charged at all since the difference payment entailed by the reliability option is deemed a sufficient incentive to be available in times of system stress.

Also several details related to the application of non-availability payments differ from one mechanism to another one. For instance the implementation or not of stop-loss limit conditions, which aim at limiting the possible penalty (e.g. linking it to the remuneration received) or the escalation of penalties leading to contract termination in case of persistent unavailability. Finally, also several exemptions are foreseen in some national CM rules, for instance in case the unavailability is due to a planned maintenance approved by the TSO, or to restrictions imposed by authorities. All these features may vary significantly among capacity mechanisms.

As a general principle, non-availability payments as equivalent as possible between domestic and foreign capacity providers should be applied, as stated in the IEM Regulation, article 26(6): “Capacity providers shall be required to make non-availability payments where their capacity is not available” and

article 22(1) letter (d) “*select capacity providers by means of a transparent, non-discriminatory and competitive process*”.

6.2. Principle of non-discrimination

The section refers to Article 20 of the draft proposal.

The core principle of non-discrimination means that **foreign contracted capacity should be subject to the same non-availability payments applied to domestic capacities**, to avoid distorting the functioning of the approved capacity mechanism and to respect market design principles stated in the IEM Regulation.

This equivalence means that foreign capacity providers should be subject to non-availability payments using the same (or as equivalent as possible):

- a. amount of penalty imposed through the non-availability payment;
- b. settlement timeframe;
- c. non-availability payment methodology.

6.3. Roles of involved TSOs and NRAs

The section refers to Article 21 of the draft proposal.

Article 21 defines roles of involved actors:

- **Foreign TSO:** communicates results of Availability checks to the CM operator
- **CM operator:** computes the Non-availability volume and the associated Non-availability payment, if any, for each CMU and gives notice to the capacity provider
- **CM operator (or the contract counterpart):** collects the payment from the capacity provider
- **NRAs:** monitor the enforcement of non-availability payments

6.4. Definition of Non-availability volume in case of multiple commitments

The section refers to Article 22 of the draft proposal.

When direct cross-border participation is allowed, cases where the same CMU is participating to multiple CMs (“multiple participation”) may arise. The IEM Regulation prescribes that multiple

participation should be allowed (Article 26(5): “Capacity providers shall be able to participate in more than one capacity mechanism”), subject to the condition that “where capacity providers participate in more than one capacity mechanism for the same delivery period, they shall be required to make multiple non-availability payments where they are unable to fulfil multiple commitments” (Article 26(6)).

As a capacity available at one place cannot help with adequacy issues in two Member States at the same time and in order to avoid windfall profits, a non-availability volume should be identified whenever the capacity made available is lower than the sum of simultaneous commitments (i.e. availability obligations valid for that timeframe) to provide the right incentive to capacity providers to commit only the capacity they expect to be able to make simultaneously available in case of overlapping Reference periods.

Secondly, a criterion should be identified to attribute the available capacity to every CM contract, considering that:

- a) arbitrage between different penalties should be avoided;
- b) the available capacity referred to the same CMU and timeframe might result in different values for each CM where the CMU is contracted due to different Availability check methodologies (cf. examples in Table 1);
- c) The methodology proposed should be coherent with adequacy analysis – upon which rely the calculation of Maximum Entry Capacity – which enables a capacity provider to help with the security of supply of several Member States as long as there are no simultaneous scarcity situations.

The formula proposed in the common rules for non-availability payment to attribute the available capacity to different CM contracts relies on a simple pro-rata criterion:

$$available\ capacity_{h,CM_i} = Availability\ check\ result_{h,CM_i} \cdot \frac{capacity\ commitment_{h,CM_i}}{\sum_i capacity\ commitment_{h,CM_i}} \quad (eq.1)$$

From (eq.1) it can be easily derived the Non-availability volume:

$$Non\ availability\ volume_{h,CM_i} = \max(0; capacity\ commitment_{h,CM_i} - available\ capacity_{h,CM_i}) \quad (eq.2)$$

Example:

- Country A and B with a CM
- CMU located in country B and participating to both CMs of country A and B

For hour h the availability obligations are the following:

- commitment CM A = 25 MW, commitment CM B = 75 MW

Availability checks results for the CMU in hour h are:

- Availability check result = **80 MW** (for CM A)
- Availability check result = **72 MW** (for CM B)

(according to availability checks performed by TSO of country B)

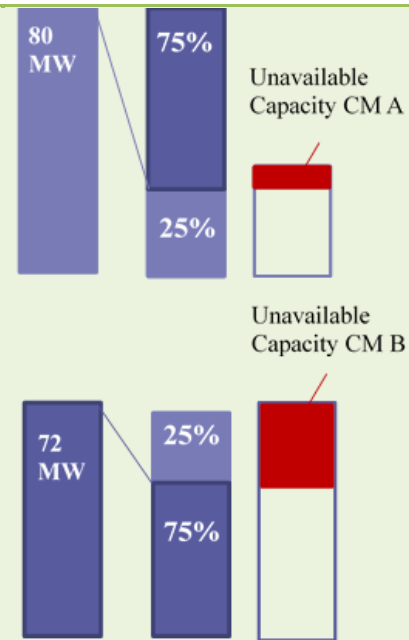
Assuming that the Reference Period is limited to the hour h:

Non-availability volume A = $25 - 80 \cdot 25 / 100 = 25 - 20 = 5$

MW

Non-availability volume B = $75 - 72 \cdot 75 / 100 = 75 - 54 = 21$

MW



6.5. Application of Non-availability payments

The section refers to article 23 of the draft proposal.

- Article 23 aims at establishing **common principles and guidelines for application of non-availability payments**, provided that specific rules and methodologies are defined in the national framework approved by the DG COMP of the European Commission. In case of **planned unavailability** of the CMU (e.g. maintenance), alternative penalties or exemptions may apply. The same applies to unavailability due to any measures taken by system operators or any other competent authority that prevent the market participation of the CMU (e.g. limitation to market activity for grid upgrade works, technical tests asked by the system operator, fuel rationing imposed by the authorities, etc...);
- **Stop loss limits** might be applied to non-availability payments;
- **Escalation of penalties** can be applied in case of persistent unavailability of contracted capacity;
- **Contract termination fees**, if any, should at least equal the payment due for Non-availability payment to prevent arbitration and should include the return of undue remuneration.

6.6. Reporting to the involved NRAs

The section refers to article 24 of the draft proposal.

For the sake of transparency, it is foreseen that the CM operator shares, upon request, with the involved NRAs after every delivery period a report with data on non-availability payments imposed to foreign contracted CMUs.

7. Terms of the operation of the registry

7.1. Subject and scope

The IEM Regulation requires TSO where the foreign capacity is located to establish whether interested capacity providers can provide the technical performance as required by a capacity mechanism in another Member States. Eligible capacity providers should be registered in a common European registry. The terms for the operation of the registry details the scope of the data it contains and specifies the governance and transparency rules to provide reports on processes relevant for cross border participation in capacity mechanisms.

7.2. General Provisions

This section refers to article 25 of the draft proposal.

Supported processes

As referred to in article 25, ENTSO-E needs to set up a functional registry by the 5th of July 2021, according to the deadline foreseen in the article 26(15) of the IEM Regulation. Therefore, this Terms of Operation focus on setting out the coordination processes as required by the IEM Regulation. This primarily concerns the registration of capacity providers as eligible, the required coordination between the involved stakeholders for this purpose, and the notification of transfers of allocated Entry Capacity between capacity providers.

Given the actual differences between applied and planned capacity mechanisms in various Member States as regards processes and systems, the registry should not replace procedures nor tools that are specific to such mechanisms and dependent on specific design choices approved by the DG COMP, **but should rather reinforce and facilitate the interaction and processes**. This among other things includes the key milestones of the functioning of a capacity market, such as auctions for capacity obligations and related secondary markets mechanisms.

The registry should serve cooperation between TSOs and Capacity Mechanism Operators in order to facilitate cross border participation of foreign capacity providers. While, in a first stage it is the goal of ENTSO-E that the registry is set up properly with all the basic functions required by the IEM Regulation, at a later stage and based on return on experience, additional facilitating functions can be considered.

The terms and conditions for the use of the registry will be prepared by the ENTSO-E. Those terms & conditions will among others include the data access, data privacy and data submission process.

Registry users

The registry serves to facilitate cooperation between the main stakeholders involved in the organisation of capacity mechanisms to facilitate cross-border participation of capacity providers. The IEM Regulation places registration obligations with TSOs where the capacity is located. To undertake such registration, TSOs should have access to the registry. In addition, TSOs can use the registry to notify the TSOs in the Member State applying the capacity mechanism of all information required with the eligibility checking process, as required by Article 26(10)(c) of the IEM Regulation.

The division of responsibilities for the allocation of cross-border contracts, including any subsequent transfers, is a Member State competence. Such tasks can be attributed to a TSO, but also to another party tasked with capacity mechanism responsibilities. This terms of operations refers to such party as a CM operator. In order to safeguard that notifications of transfers of cross-border contracts are based on valid transactions, the CM Operator also requires access to the registry.

While ENTSO-E has considered whether capacity providers require direct access to the registry, it was deemed less efficient to ensure this, at least at this first stage. Indeed, submission of data and subsequent changes would need to be verified in any case by the TSO where the capacity is located and any capacity in a Member State is already likely to interact with the TSO. Adding an additional counterparty to the process, only makes the process heavier for the capacity provider which is not in the interest of good market facilitation. Therefore and given its role in the process anyway, it is up to the TSO where the capacity is located to define the processes to obtain correct data from the capacity providers located in its Member State (obviously building on any national processes already available) and adhere to its obligation to register their eligibility in the registry.

The relevant TSOs, CM Operators and ENTSO-E having access to the registry, NRAs and ACER can address these parties to request information concerning registration processes from TSOs with respect to their related duties. As explained under section 7.4 below, ENTSO-E does foresee to provide reports ACER on the basis of the information included in the registry. NRAs could address information requests to their TSO(s).

Information included in the registry

The methodology requires TSOs to submit information and data submitted by capacity providers for the purpose of the registration process to the registry. In some cases, data submitted to the registry will not be sufficient for the capacity providers to participate in all CM processes. Thus, additional data might have to be submitted by the capacity provider in accordance with the procedures of the relevant capacity mechanism (see more in section 8.1).

The registry does not provide functionality to submit additional, specific data, but focusses on the common denominator in such data.

7.3. Scope of data

This section refers to Article 26 of the draft proposal.

Registration data

The data of the registered capacity providers that will be stored in the registry shall support process of the direct cross-border capacity participation in CM. ENTSO-E decided to limit the data to common information asked in most capacity mechanisms (based on the assumptions in section 8.3).

The registry will be a source of verified data that may allow to simplify initial verification of the capacity provider – the CM Operator has limited information about the foreign capacity providers (e.g. due to limited access to data, language). In this regard and in line with the provisions foreseen at Article 26 paragraph 10 of the IEM Regulation, the registration performed by the TSO where the capacity is located shall facilitate the process.

Participation status

The participation of capacity providers in multiple CMs is not forbidden, as explicitly mentioned in the IEM Regulation, Article 26.5. This has as a consequence that information about current capacity provider's participation and its status in CMs shall be known to the CM Operator where the capacity provider is willing to participate. This is required as it impacts the availability settlement for such capacity provider. Being active and having commitments in two (or more) CMs, requires each CM to ensure there is no double-counting, cf. section 6 related to the common rules for determining when a non-availability payment is due, where this is further addressed.

Allocated entry capacity

ENTSO-E has opted to include up-to-date information on allocated entry capacity per capacity provider in the registry to ensure compliance with the requirement of article 26(14) of the IEM Regulation that transfers of allocated entry capacity are notified to the registry. The obligation to update this information is put upon the CM Operator, as ENTSO-E expects this party to have a central role in the approval of any transfer between capacity providers. Up-to-date information on allocated entry capacity allows TSOs and CM operators to be informed of participation of a capacity provider in multiple capacity mechanisms and ensure a proper availability monitoring. It ensures that the Maximum Entry Capacity is respected at all times.

7.4. Data access and reporting

This section refers to Article 27 of the draft proposal.

Editing data

All relevant registry users can view and edit the data it has submitted to the registry. Capacity providers can request its local TSO data to edit data related to its eligibility status, the TSO where the capacity is located may edit data when new information becomes relevant, and the Terms of operations of the registry foresees an annual data verification process. The data related to a capacity provider stored in the registry can only be changed by the TSO where the capacity is located, in accordance with the rules and timelines referred to in Article 28(3) of the draft proposal. This solution allows to maintain data consistency and correctness. Moreover it helps to limit the number of the registry users and increases security of the data. It is the obligation of the capacity provider to inform his TSO on any changes in the data that are to be reported in the registry.

Data reports

The relevant TSOs, CM Operators and ENTSO-E having access to the registry, NRAs and ACER can address these parties to request information concerning registration processes from TSOs with respect to their related duties. ENTSO-E does foresee to provide reports ACER on the basis of the information included in the registry. NRAs could address information requests to their TSO.

Announcement of system stress

The registry will allow communication between the registry users. This functionality may be used to communicate to registry users e.g. the upcoming deadlines of the CMs.

Moreover the CM Operator may send information to the capacity providers. It can be used, inter alia, to announce system stress events. As the capacity provider is not a registry user, this functionality of the registry shall not be treated as a primary source but as an auxiliary one.

ENTSO-E did not foresee to use the communication functionality of the registry to exchange the data related to the additional (beyond what is considered in the registration in the registry) eligibility check, availability checks and remuneration and non-availability payment.

8. Common rules for identifying capacity eligible to participate in the capacity mechanism

The IEM Regulation requires TSO where the foreign capacity is located to establish whether interested capacity providers can provide the technical performance as required by a capacity mechanism in another Member State. This part of the proposal contains common rules for TSOs to assess whether capacity providers meet a set of commonly defined requirements, further referred to as eligibility checks.

8.1. General provisions

This section refers to article 28 of the draft proposal.

The processes held with use of the registry's functionalities shall not replace any processes held by the CM Operator, unless the CM Operator decides otherwise. The fact that all capacity mechanisms are tailored for each individual situation of the Member State's system, results in numerous processes organized within those mechanisms, which are rarely alike between different Member States. Therefore, finding a common ground and establishing the spectrum of data required to be provided by the capacity providers to the registry seems to be implausible.

The list of data required for the eligibility check contains only the rudimental, universal information that shall be required by all CM Operators regardless of the CM's design. ENTSO-E has conducted a survey among all Member States that currently apply a CM or are advanced in the process of design of a CM. The high level results of the review of the application of different eligibility criteria to existing and new/refurbished capacity providers are set in the table below. We note that, since some of the CMs studied (specifically Belgium and Greece) have yet to be implemented, some of the results need to be interpreted as provisional positions.

Eligibility requirements – Existing generation								Eligibility requirements – New generation							
	GB	EI	FR	IT	PL	BE	GR		GB	EI	FR	IT	PL	BE	GR
Corporate credentials	✓	✓	✓	✓	✓	✓		Corporate credentials	✓	✓	✓	✓	✓	✓	✓
Facility address	✓	✓	✓	✓	✓	✓		Facility address	✓	✓	✓	✓	✓	✓	✓
Scale (MWs) and aggregation	✓	✓	✓	✓	✓	✓	✓	Intention to build (e.g. FID)	✓	✓	✗	✓	✓	✗	
Grid connection	✓	✓	✓	✓	✓	✓	✓	Grid connection offer	✓	✓	✗	✗	✓	✓	✓
Adequacy of metering equipment	✓	✓	✗	✓	✓	✓	✓	Construction plan/dates	✓	✓	✗	✓	✓	✓	✓
State aids received	✗	✗	✗	✓	✓	✓	✓	Existing authorisations/ permits of proof of application	✓	✓	✗	✓	✓	✓	✓
Availability / other aspects of technical performance	✓	✓	✗	✓	✓	✓		Investment cost	✓	✓	✗	✓	✓	✓	✓
Financial standing / capacity?	✓	✓	✗	✓	✗	✓	✗	Financial commitment to proceed	✓	✓	✓	✓	✓	✓	✓
CO2 emissions index	✗	✗	✗	✓	✓	✓	✓	CO2 emissions index	✗	✗	✓	✓	✓	✓	
Other requirements for existing plant?	✓	✓	✓	✗	✓	✗	✗	Other requirements for new or refurbishing plants	✓	✓	✓	✗	✓	✗	✓

Table 2: Non-comprehensive overview on the eligibility requirements in some CM [Source: Frontier Economics]

Table above shows high-level summary of the eligibility criteria in different MS CMs. The deep dive into designs of specific CMs shows complex designs and complies eligibility checks e.g., some of which were introduced to meet the DG COMP requirements in its approval of the CM as allowed State Aid:

- design of processes in the Polish CM foresees two stages of prequalification. The first one, so called general certification, is mandatory for all generation units with a capacity equal to or greater than 2 MW and all other types of units wishing to participate in further CM processes. The second stage, called main certification, is obligatory only for the CM participants. On that stage, the participants are required to state much more specific data that are not mandatory in case of any other country. For instance, the participants of Polish capacity market must state the sulphur oxides, nitrogen oxides and ashes emission, schedule of work for five upcoming years, financial costs of operations, different types of efficiencies (net design, net total, net at minimum load) etc.. The aggregation of the units is allowed up to 50MWe, while single unit in this aggregate cannot be larger than 10MW.
- design of processes in the French CM foresees two stages for eligibility of cross-border capacity provider. Indeed, a light pre-qualification process is foreseen before the access ticket auction while the full eligibility is established only for capacity providers which were awarded access tickets so as to limit the administrative cost and burden for capacity providers. The aggregation scale ranges from 1 MW to 100 MW for domestic capacities, with an exemption for hydropower turbines that can exceed this ceiling if all sites are located on the same stream (notion of interdependency).

Out of all mentioned above (the ENTISOE survey and more detailed look) it is possible to draw a number of conclusions:

- Eligibility requirements vary according to whether it is existing or new / refurbishing capacity that is being considered;
- While there are some differences between jurisdictions, there is a reasonable degree of consistency as to the eligibility checks which are performed on capacity providers prior to CM participation. There would appear to be a “core” set of checks that are relatively common in today’s CMs;
- Aggregation is typically required for smaller capacities – but in many cases this does not reduce the eligibility checking burden as individual sites are still subject to some eligibility checks;
- Eligibility checks on DSR may be undertaken under a longer period than for other capacity.

Based on this analysis ENTISO-E prepared list of common data needed for registration, that is further explained in the 8.3.

Rules and timelines

Thus, the registration in the registry shall be a process supporting the regular processes in a given CM, not one replacing them. The TSO where the capacity is located sets out the rules and timeline of the eligibility checking process (see also step 1 to 4 in figure 3). ENTISO-E will not define the guidelines nor common rules of such process. This decision is caused by the fact that majority of Member States have their own processes, solutions and tools for the eligibility checks and ENTISO-E is not willing to create new, other processes that may duplicate them.

Registration and further national requirements

In some cases data submitted to the registry will not be sufficient for the capacity providers to participate in all CM processes. Additional data will have to be submitted by the capacity provider to the CM operator in accordance with the procedures of the relevant capacity mechanism. This could include for instance data related to financial performance, specific test data, specific information related to declarations on not cumulating different support mechanisms, etc. This information can vary for the different capacity mechanisms.

The correct provision of data to the registry, and its subsequent validation, will not entitle a capacity provider with an unconditional right for cross-border participation in a capacity, unless the CM operator decides otherwise.

8.2. Eligibility: registration process

This section refers to article 29 of the draft proposal.

The registration of the capacity provider to the registry starts on the request of the capacity provider (**step 1** in the graph below). The capacity provider shall submit data to the TSO where the capacity is located (**step 2**) and these data shall be verified by this TSO (**step 3**). Foreign TSO notifies the capacity provider about the verification result (**step 4**). In case of negative verification result, e.g. because of missing documents, the capacity provider may supplement them.

After collection of all required data and confirmation of its correctness, the Foreign TSO starts the registration by submitting it to the registry (**step 5**). The successful registration is notified to the CM Operator (**step 6**). At this stage negative registration may be caused e.g. by the wrong data format or missing data. There will be no data validity verification performed by ENTSO-E.

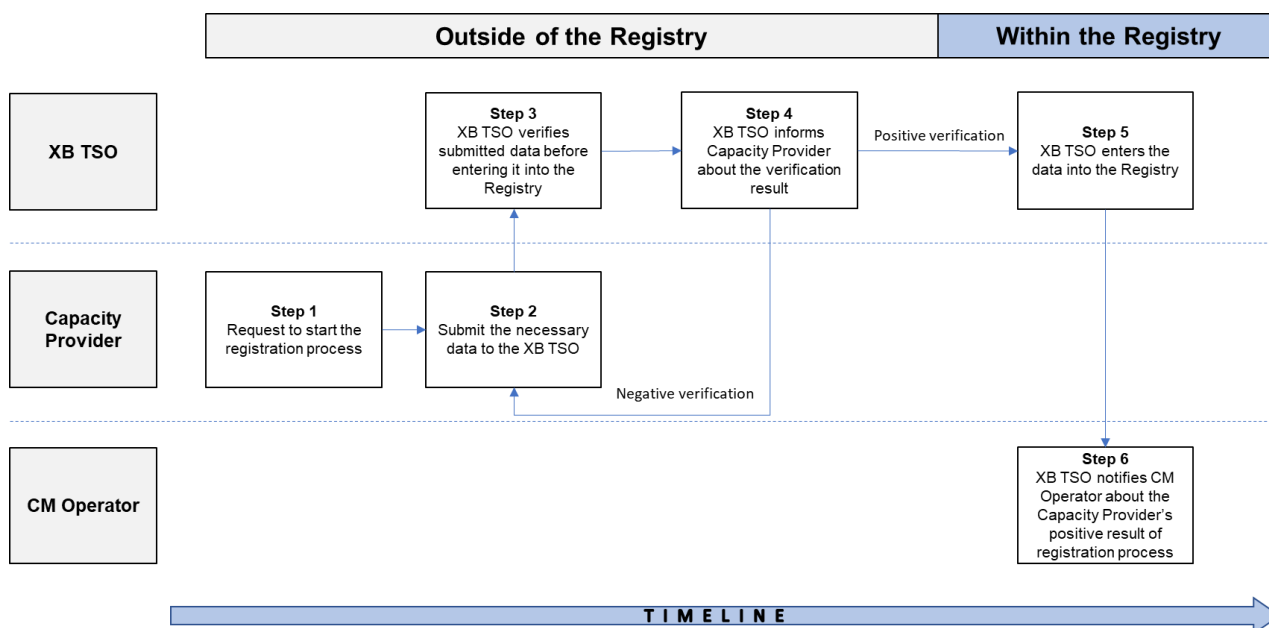


Figure 3: Graph on the registration of capacity provider in the Registry

After **step 6** the capacity provider is registered in the registry.

In case of a need of data change or/and update, the process should be carried out again completely from step 1 to 6.

8.3. Eligibility: eligibility check

This section refers to Article 30 of the draft proposal.

Required data

In order to get the confirmation of the status of the eligibility, the requested data must have been completed within the predefined times, confirmed by the TSO, where the CMO is located and submitted to the registry. Based on the analysis (described in 8.1) ENTSO-E prepared list of common data needed for registration: corporate credentials – proof of administrative details of the legal entity registering the resource;

- facility address - proof of address and location of the resource;
- capacity and aggregation – general technical (capacity) information and if unit is aggregated;
- technology type and fuel - – general technical information e.g. needed to apply the derating factor;
- metering points - proof of grid connection and of technical sufficiency of site metering equipment;
- network operator - proof of grid connection and location;
- CO₂ emission limits information as referred to the IEM Regulation Article 22(4) - proof of level of CO₂ emissions related to the resource calculated as referred to IEM Regulation.

The role of the capacity provider is to submit to his TSO the most up to date data.

Aggregation

Aggregation must be allowed under the conditions which the CM Operator had defined (as close as possible like for domestic capacity). As the data requested should be submitted by each unit, the TSO must verify the information coming from each unit separately.

Depending on its location, the units which would want to participate in an aggregated or separately form, may be connected on DSO level. In order to carry out information exchange between TSO and DSO, the solutions to be considered must be developed at national level.

All the units belonging to an aggregated unit must have fulfilled with the requested data, whether the units are connected to the transmission grid or to a distribution grid. Under the circumstances that one unit does not meet the conditions, the whole aggregated unit will not obtain the eligibility.

Annual verification

To maintain high data quality the registry shall be verified at least once a year. Then, all capacity mechanism's qualification processes, will be based on the CMU data updated at the correct time.

Negative result of registration process

The non-achievement, or loss of eligibility, will be the consequence of a negative result in the registry process, such as lack of data, out of date provision or update, do not meet the requirements, etc. The failure on eligibility must not affect the ongoing commitments. If an update of the capacity provider

data impacts the result of the registration, the TSO where the capacity is located shall inform the CM operator.