

CCR Core TSOs' Cooperation



Core CCR TSOs' Methodology for a market-based allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in accordance with article 41 of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

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Core Transmission System Operators taking into account the following:

Whereas

1. The methodology for market-based allocation generally contributes to achieving the objectives stated in article 3 of the EB Regulation. In particular, this methodology for market-based allocation serves the following objectives of the EB Regulation:
 - (a) The methodology for market-based allocation serves the objective of fostering effective competition, non-discrimination and transparency in balancing markets as stated in article 3(1)(a) and enhancing efficiency of balancing as well as efficiency of European and national balancing markets as stated in article 3(1)(b) of the EB Regulation by defining the required principles necessary for the application of the methodology of market-based allocation as detailed in Article 3 of this methodology for market-based allocation including additional requirements for harmonisation, and foster transparency by means of the notification process as specified in Article 4;
 - (b) The methodology for market-based allocation facilitates the objective for the integration of the balancing markets and for promoting the possibilities for the exchanges of balancing services while using market-based mechanisms and contributing to operational security as stated in article 3(1)(c) and article 3(2)(d) of the EB Regulation by means of a clear harmonised process description for the procurement of balancing capacity across border as detailed in Article 5 of this methodology for market-based allocation, make explicit rules on respecting day-ahead markets as detailed in Articles 6, 7, 8 and 9 of this methodology for market-based allocation;
 - (c) The methodology for market-based allocation ensures that the procurement of balancing services is fair, objective, transparent and market-based in accordance with article 3(2)(e) of the EB Regulation. The rules on procurement of balancing capacity are required to be harmonised per application of methodology for market-based allocation according to Articles 3 and 5 of this methodology for market-based allocation. For avoidance of undue barriers to participate for new entrants and to foster liquidity, exact timings are still to be decided per application of methodology for market-based allocation for the procurement of balancing capacity and for additional market design principles. Furthermore, common rules are stated in Articles 7 to 9 how the market value and volume as well as the offered volumes and prices shall be determined;
 - (d) The methodology for market-based allocation takes into account the facilitation of demand response including aggregation and energy storage and participation of renewables by enabling short GCTs of balancing capacity procurement and complex bidding in accordance with article 3(2)(f) and article 3(2)(g) of the EB Regulation as defined in Articles 5 and 3 of this methodology for market-based allocation, respectively;
 - (e) This methodology for market-based allocation may, if relevant, be applied before the go-live of the balancing energy platforms according to articles 19, 20 and 21 of the EB Regulation;
 - (f) In case the day-ahead flow-based market coupling is implemented in the CCR Core, the flow-based domain shall be considered for the forecasting of market value of cross-zonal capacity according to Article 7 of this methodology;

In conclusion, the methodology for market-based allocation meets the objectives of the EB Regulation.

Abbreviations

The list of abbreviations used in this methodology for market-based allocation is the following:

- aFRR: frequency restoration reserve with automatic activation
- BSP: balancing service provider
- BZB: bidding zone border
- CACM Regulation: Commission Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management
- CCR: capacity calculation region
- EB Regulation: Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing
- ENTSO-E: European Network of Transmission System Operators for Electricity
- GCT: gate closure time
- mFRR: frequency restoration reserve with manual activation
- MTU: market time unit
- RR: replacement reserve
- SDAC: single day-ahead coupling
- SO Regulation: Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation
- TSO: transmission system operator

Article 1

Subject Matter and Scope

1. This methodology for market-based allocation specifies the market-based process of the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the CCR Core; the market-based process is based on the forecasted market values of cross-zonal capacity for the exchange of energy and the actual market values of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves.
2. The application of the methodology of market-based allocation is subject to a proposal for application, which may be developed by two or more TSOs at their own initiative or at the request of their relevant regulatory authorities in accordance with article 38(1) of the EB Regulation and subject to approval by the relevant regulatory authorities.
3. The methodology for the application of the market-based allocation shall include the BZBs, the market timeframe, the duration of application and the detailed description of a methodology to be applied in accordance with article 38(2)(a) of the EB Regulation.
4. Two or more Core TSOs exchanging balancing capacity by applying the methodology of market-based allocation shall use a common and harmonised set of rules and processes for the exchange and procurement of balancing capacity in accordance with article 33 of the EB Regulation, and respecting the requirements set out in article 32 of the EB Regulation.
5. The list of standard products for balancing capacity for frequency restoration reserves and replacement reserves is subject to the methodology pursuant to article 25(2) of the EB Regulation and out of the scope of this methodology of market-based allocation.

Article 2

Definitions and Interpretation

1. For the purposes of this methodology for market-based allocation, the terms used shall have the definition given to them in article 2 of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity, article 2 of the Transparency Regulation, article 2 of the CACM Regulation, article 3 of the SO Regulation and article 2 of the EB Regulation.
2. The following additional definitions shall also apply:
 - (a) 'Adjustment factor' means a correction to the calculated shadow price(s) associated with the reference day to calculate the forecasted market value of cross-zonal capacity for the exchange of energy with the objective to increase the accuracy of the forecasting.
 - (b) 'Contracting of balancing capacity' means a process at a certain point in time where balancing service providers' bids in a balancing capacity auction are selected after the gate closure time and the balancing service providers are informed about their selected bids.
 - (c) 'Cross zonal capacity allocation optimisation function' means the algorithm applied for the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of each application of the market-based methodology.
 - (d) 'Economic surplus for the exchange of balancing capacity or sharing of reserves' means the sum for the relevant time period of (i) the buyer surplus calculated as the difference between the TSOs' maximum willingness to pay and the TSO-BSP settlement price(s) multiplied by the

accepted volumes, (ii) the seller surplus calculated as the difference between the bid prices and the TSO-BSP settlement price(s) multiplied by the accepted volumes, and (iii) the TSOs' congestion income calculated based on the difference between market clearing prices multiplied with the allocated cross-zonal capacity.

- (e) 'Economic surplus for the exchange of energy' means the sum for the relevant time period of (i) the consumer surplus calculated as the difference between the bid prices for which the consumers are willing to buy and the market clearing price multiplied by the accepted volumes, (ii) the producer surplus calculated as the difference between the bid prices for which the producers are willing to sell and the market clearing price multiplied by the accepted volumes, and (iii) the congestion income calculated as the difference between market clearing prices multiplied with the allocated cross-zonal capacity for the exchange of energy.
 - (f) 'Mark-up' means the addition to the forecasted market value of cross-zonal capacity for the exchange of energy calculated in order to take into account the uncertainty in the forecasted market value of cross-zonal capacity for the exchange of energy during application in the capacity procurement optimization function.
 - (g) 'Reference day' means the day which is used to define the forecasted value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves.
 - (h) 'Shadow price' means the dual price of a critical network element associated with a contingency used in capacity calculation, or allocation constraint representing the increase in the economic surplus if a constraint is increased by one (1) MW.
3. In this methodology for market-based allocation, unless the context requires otherwise:
- (a) the singular indicates the plural and vice versa;
 - (b) the table of contents and headings are inserted for convenience only and do not affect the interpretation of this methodology for market-based allocation;
 - (c) any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force; and
 - (d) any reference to an Article without an indication of the document shall mean a reference to this methodology for market-based allocation.

Article 3

Principles for Applying market-based Cross-zonal Capacity Allocation

1. In the context of this methodology for market-based allocation, an application of the market-based methodology consists of two or more Core TSOs that apply the exchange of balancing capacity or sharing of reserves in a geographical area sharing (a) common BZB(s).
2. The settlement of standard balancing capacity bids for each application of this methodology for market-based allocation between TSOs and BSPs shall be based on cross-zonal marginal pricing (pay-as-cleared).

Until the proposal to harmonize the methodology for the allocation process of cross-zonal capacity for the exchange of balancing capacity according to article 38(3) EB Regulation is applicable, a settlement of standard balancing capacity bids between TSOs and BSPs may be based on pay-as-bid.

3. Each application of this methodology for market-based allocation shall decide on the complexity of bids, i.e linking possibilities between balancing capacity bids in time and between products and divisibility.
4. For each application of the market-based methodology, the contracting period of standard balancing capacity bids shall be equal to or a multiple of the day-ahead MTU and has a maximum contracting period of one (1) day. The contracting period is the period for which a BSP can submit one or more balancing capacity bids during the procurement process of balancing capacity.
5. For each application of the market-based methodology, the validity period of standard balancing capacity bids shall be equal or a multiple of the day-ahead MTU and have a maximum validity period of one (1) day. The validity period of standard balancing capacity bids is the period for which the single standard product for balancing capacity bid is offered, i.e each submitted capacity volume has one single bid price.
6. For each application of the market-based methodology, the TSO-BSP settlement rules shall be harmonised. In case of a Core TSO applying a central dispatching model and applying this market-based methodology, the TSO-BSP settlement rules of standard balancing capacity products procured within the application of the market-based methodology are defined by the Core TSO in the national terms and conditions related to BSPs and shall include conversion rules of integrated scheduling process bids into standard balancing capacity products defined pursuant to article 27 of the EB Regulation.

Article 4

Notification Process for the Use of the Market-based Allocation Process

1. Core TSOs intending to apply the methodology for market-based allocation shall notify all Core TSOs six (6) months before the application in accordance with article 150 of the SO Regulation and inform all stakeholders and all TSOs through an announcement on the ENTSO-E website at least six (6) months prior to entering into operation. The announcement on the ENTSO-E website shall include:
 - a. a detailed description of the specifications in accordance with article 38(2) of the EB Regulation;
 - b. the type of standard balancing capacity product which will be exchanged or shared;
 - c. the planned date of entry into operation; and
 - d. the forecasting technique consisting of the use of reference days, adjustment factors and mark-ups to determine the forecasted market value of cross-zonal capacity for the exchange of energy.

Core TSOs and market participants may provide remarks regarding the forecasting technique announced in accordance to paragraph 1(d) not later than two (2) months ahead of the application. Core TSOs applying the market-based methodology shall take the remarks by all Core TSOs properly into account.

2. Core TSOs applying the methodology for market-based allocation shall share the applied cross-zonal capacity allocation optimisation function with all Core TSOs.

Article 5

Timeframe of Market-based Allocation

1. The market-based allocation process to allocate cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves shall include the following consecutive timings for each application of the market-based methodology in CCR Core. In the following, “(each) application” refers to “(each) application of the market-based methodology in CCR Core”.
 - a. The GCT for BSPs to submit to Core TSOs (TSO-BSP GCT) the standard balancing capacity bids shall be the same for each BSP (per standard product and per direction) and shall be organised in between one (1) week in advance of the provision of the balancing capacity and before the final computation of the cross-zonal capacity of the single day-ahead coupling has been computed. The TSO-BSP GCT shall be specified in the proposal for the establishment of common and harmonised rules and processes for the exchange and procurement of balancing capacity pursuant to article 33(1) of the EB Regulation.
 - b. For Core TSOs applying central dispatching model and applying this market-based methodology, the TSO-BSP GCT for the submission of the integrated scheduling process bids that are converted to the standard balancing capacity bids shall be defined in the national terms and conditions pursuant to articles 24(5) and 24(6) of the EB Regulation.
 - c. Each Core TSO applying the market-based methodology shall notify the respective balancing energy platforms, pursuant to articles 19, 20 and 21 of the EB Regulation, about the allocated cross-zonal capacity volumes of each BZB, for each standard balancing capacity product, per validity period and in each direction, within one (1) hour after the results of cross-zonal capacity optimisation are known.
 - d. Simultaneously, Core TSOs applying the market-based methodology shall notify all BSPs in the scheduling areas of the application about their selected standard upward balancing capacity bids and/or downward balancing capacity bids and at the latest one (1) hour before the GCT of the SDAC. In case the procurement of different balancing capacity products is performed subsequently, the notification per product and per application shall be done before the subsequent TSO-BSP GCT of another product.
 - e. Notification to all market participants of allocated cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves shall be done at the same point in time as described in paragraph d.
2. The market-based allocation process to allocate cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves shall include the following steps:
 - a. BSPs submit standard upward and standard downward balancing capacity bids to the connecting TSO.
 - b. For Core TSOs who are applying a central dispatching model and are applying this market-based methodology, BSPs may submit only integrated scheduling process bids (instead of standard balancing capacity bids), which may be converted where possible into standard upward and/or standard downward balancing capacity bids by the connecting TSO in accordance with article 27 of the EB Regulation.
 - c. Core TSOs applying the market-based methodology shall perform the cross-zonal capacity allocation optimisation function after the TSO-BSP GCT of standard balancing capacity bids and determine the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per application based on:

- i. the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves determined in accordance with Article 8;
 - ii. the balancing capacity demand and if relevant TSO balancing capacity tolerance band for sharing of reserves of each Core TSO within the application;
 - iii. the forecasted market value of cross-zonal capacity for the exchange of energy determined in accordance with Article 7;
 - iv. applied limitations of maximum allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per BZB;
 - v. the latest available cross-zonal capacity per BZB for the SDAC;
 - vi. the minimum available cross-zonal capacity resulted from the available transmission capacity extraction; and
 - vii. already allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves based on other application of this methodology of market-based allocation and other methodologies according to article 38.3 and article 41 of the EB Regulation.
- d. Core TSOs applying the market-based methodology shall determine the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per standard product, per validity period of the standard product, per direction and per BZB.

Article 6

Process to Define the Maximum Volume of Allocated cross-zonal capacity for the Exchange of Balancing Capacity or Sharing of Reserves

1. The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves shall comply with article 41(2) of the EB Regulation to respect the volume limitations for the allocation of cross-zonal capacity.
2. The maximum volume limitations of allocated cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves for this methodology for market-based allocation shall be applicable per BZB and include the cumulative allocation of all balancing capacity products and per direction.
3. The maximum of 10% of cross-zonal capacity allocated on a market-based process on a Core BZB (in accordance with article 41(2) of the EB Regulation) is determined as the 10% of the average of calculated cross-zonal capacities for SDAC fallback procedure in accordance with article 44 of the CACM Regulation based on article 23 of the day-ahead capacity calculation methodology in accordance with article 20(ff) of the CACM Regulation. The respective resulting cross-zonal capacity shall be published by Core TSOs.
4. For new interconnectors, 10% of the installed capacity means 10% of the active power capacity of the interconnector's capability to transfer continuously within the determined safe security margins of the interconnector.
5. The maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall respect the requirements and limits for exchange of aFRR, mFRR and of RR within a synchronous area in accordance with articles 167 and 169 of the SO Regulation.

6. In case flow-based is applied, the volume of cumulative allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves on a certain BZB for all balancing capacity products and per direction shall not exceed the available cross-zonal capacity volume based on available transmission constraint extraction of the particular BZB.
7. Core TSOs applying the market-based methodology may apply additional lower limits besides the limitations of article 41(2) of the EB Regulation for the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves within their own application. The previous stated may also be initiated at the request of the relevant regulatory authorities. The use of additional lower limits by each application for the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be set out in the proposal according to article 33(1) of the EB Regulation.

Article 7

Determination of the Forecasted Market Value of cross-zonal capacity for the Exchange of Energy

1. The forecasted market value of cross-zonal capacity for the exchange of energy shall be based on the use of a forecasting methodology and shall be calculated for each day-ahead MTU, where the cross-zonal capacity is calculated in accordance with the Capacity Calculation Methodology for CCR Core, following article 20(2) of the CACM Regulation.
2. The forecasted market value of cross-zonal capacity for the exchange of energy between bidding zones represents the expected change of economic surplus for the exchange of energy and shall be calculated based on the shadow price associated to the critical network elements limiting the exchange, adjusted by the sensitivity of these element(s) on an exchange between the relevant bidding zones, on the selected reference day(s). The forecasted market value of cross-zonal capacity for the direction of the exchange of energy is 0 EUR/MW if there are no limiting network elements limiting the exchange between two bidding zones.
3. The forecasting methodology using shadow prices:
 - a. shall include adjustment factors to improve the accuracy of the forecasting of the forecasted market value of cross-zonal capacity for the exchange of energy; and
 - b. may include mark-ups to take into account the uncertainty of the forecasting if the market-value of cross-zonal capacity for the exchange of energy.
4. By default, the following reference days shall be chosen:
 - a. the previous working day whenever cross-zonal capacity is allocated for a working day;
 - b. the previous weekend day whenever cross-zonal capacity is allocated for a weekend day; and
 - c. the previous Sunday or bank holiday whenever cross-zonal capacity is allocated for a bank holiday in the respective bidding zone.

In case the analysis of the efficiency pursuant to Article 7(6) of the forecasting shows that different reference days are more suitable the application of the methodology of market-based allocation shall choose the more accurate reference day, or a combination of them.

5. The concept and computation of adjustment factors and mark-ups to the forecasted market value of cross-zonal capacity for the exchange of energy between bidding zones shall be included and justified in the methodology for the establishment of common and harmonised rules and processes for the exchange and procurement of balancing capacity according to article 33(1) of the EB Regulation.

6. The TSOs of each application of the methodology of market-based allocation shall monitor, demonstrate and publish on the ENTSO-E website the efficiency of the forecasting, the appropriateness of the choice of reference days, and application of adjustment factors and mark-ups on at least a yearly basis, including a comparison of the forecasted and actual market values of the cross-zonal capacity for the exchange of energy and take appropriate actions in cooperation with the Core TSOs and respective regulatory authorities, where needed.
7. The rules in this methodology for market-based allocation for calculating the forecasted market value of cross-zonal capacity for the exchange of energy between bidding zones shall take into account the effects that the potential reduction of cross-zonal capacity from SDAC may have on the critical network element associated with a contingency used in capacity calculation of the CCR in the context of the day-ahead flow-based capacity calculation.

Article 8

Determination of the Actual Market Value of cross-zonal capacity for the Exchange of Balancing Capacity or Sharing of Reserves

1. The actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves between all bidding zones where the market-based allocation methodology is applied shall be:
 - a. the change of economic surplus from the exchange of balancing capacity or sharing of reserves;
 - b. defined per day-ahead MTU;
 - c. calculated per product, per validity period and per direction, separately;
 - d. calculated based on standard upward balancing capacity bids or downward balancing capacity bids submitted to the capacity procurement optimisation function pursuant to article 33(3) of the EB Regulation; and
 - e. calculated based on TSO balancing capacity demand and if relevant on TSO balancing capacity elastic demand applying a tolerance band for sharing of reserves.
2. In accordance with paragraph (1)(a), the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves between all the bidding zones where the market-based methodology is applied shall be calculated based on the change of economic surplus from the exchange of balancing capacity or sharing of reserves, resulting from the change of available cross-zonal capacities allocated for the exchange of balancing capacity or sharing of reserves.

Article 9

Determination of the Allocated Volume of cross-zonal capacity for the Exchange of Balancing Capacity or Sharing of Reserves

1. The objective of the allocation of cross-zonal capacity between the exchange of energy for the day-ahead market and the exchange of balancing capacity or sharing of reserves shall be the maximisation of the sum of expected economic surplus for the exchange of energy and the economic surplus from the exchange of balancing capacity or sharing of reserves.

2. The allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves is determined simultaneously with the selection of standard balancing capacity bids by the capacity procurement optimisation function.
3. The determination of the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be based on a comparison of the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves and the forecasted market value of cross-zonal capacity for the exchange of energy.
4. The optimisation resolution of the allocation of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves equals the optimisation resolution of the optimisation function of the SDAC. Standard upward balancing capacity bids and downward balancing capacity bids with a granularity larger than the day-ahead MTU are considered as block bids in the optimisation.
5. Each marginal volume of cross-zonal capacity shall be allocated to the exchange of balancing capacity and sharing of reserves in case the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves is higher than the forecasted market value of cross-zonal capacity for the exchange of energy, within the limitations of Article 6 of this methodology of market-based allocation.
6. In case balancing capacity bids can be linked or are indivisible, the economic surplus is maximised over all day-ahead MTUs belonging to an entire day.
7. Netting of cross-zonal capacity allocated to the exchange of balancing capacity or sharing of reserves is not possible between:
 - (a) standard upward and downward balancing capacity bids;
 - (b) standard balancing capacity bids of different balancing capacity products;
 - (c) standard balancing capacity bids and exchange of energy bids.
8. Core TSOs or Core regulatory authorities of each application may apply additional thresholds and/or margins to reduce cross-zonal capacity allocation for the exchange of balancing capacity or sharing of reserves between bidding zones for gradual implementation of new applications of the market-based methodology and in case of cost-optimised procurement between different balancing capacity products. The application of thresholds and/or margins shall be specified in the proposal for the application of the methodology for market-based allocation pursuant to article 38(1) of the EB Regulation and any use of thresholds and/or margins shall be published before the start of application. The efficiency of the application of thresholds and/or margins shall be published in the efficiency assessment pursuant to Article 7(6).
9. Competition on the allocation of cross-zonal capacity between different applications of the market-based methodology for a certain BZB shall be approached based on a first-come first-serve principle. The efficiency of such an approach may be evaluated by Core TSOs. Appropriate measures shall be taken to optimise the total allocation of cross-zonal capacity within the CCR Core between different applications of the market-based methodology.
10. Competition on the allocation of cross-zonal capacity within an application of the market-based methodology between different products for a certain BZB shall be based by default on a first-come first-serve principle. Each application may deviate from this approach using the thresholds and margins proposed in Article 9(8).

Article 10

Pricing of cross-zonal capacity

1. Core TSOs applying the methodology for market-based allocation shall calculate the cross-zonal capacity price for the volume of cross-zonal capacity that is allocated for the exchange of balancing capacity or sharing of reserves.
2. The price of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves shall be calculated for each day-ahead MTU, BZB and balancing capacity product, i.e. separately for upward and downward standard balancing capacity products.
3. The cross-zonal capacity price, resulting from the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves applying this market-based methodology, shall correspond for each direction to the difference between the marginal prices of the standard product balancing capacity in each direction on each side of the BZB, with pay-as-cleared (marginal pricing) for the TSO-BSP settlement.
4. In case a settlement between TSOs and BSPs based on pay-as-bid is applied pursuant to Article 3.2, the cross-zonal price shall correspond for each direction to the difference between the highest prices of the accepted balancing capacity bids on each side of the BZB in each direction.

Article 11

Firmness Regime of cross-zonal capacity

1. The allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be firm after the selection of standard upward balancing capacity bids or standard downward balancing capacity bids by the capacity procurement optimisation function pursuant to article 33(3) of the EB Regulation.
2. According to article 38(4) of the EB Regulation, cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves shall be used exclusively for the product where it was allocated for, being aFRR, mFRR or RR. In accordance with article 38(9) of the EB Regulation, if the cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves has not been used for the associated exchange of balancing energy, it shall be released to all TSOs for the exchange of balancing energy with shorter activation times or for operating the imbalance netting process. Each application of the market-based methodology shall at any time inform all Core TSOs, on who is the TSO for which cross-zonal capacity has been allocated for balancing capacity. The reliability margin calculated pursuant to CACM Regulation shall be used only for operating and exchanging frequency containment reserves, except on direct current interconnectors for which cross-zonal capacity for operating and exchanging frequency containment reserves may also be allocated in accordance with article 38(1) of the EB Regulation.
3. For each application of the methodology for market-based allocation, the relevant Core TSOs shall determine fallback procedures and curtailment procedures on firmness regime of cross-zonal capacity according to article 38 of the EB Regulation.
4. In the event of force majeure or emergency situations, curtailment of cross-zonal capacities which were allocated shall be proportionally distributed between the affected cross-zonal capacity allocated for the exchange of energy and for the exchange of balancing capacity or sharing of reserves in accordance with article 41(3) of the EB Regulation. Core TSOs can deviate from this

principle by proposing a more cost efficient, non-discriminatory solution in the proposal pursuant to article 33(1) of the EB Regulation.

5. Costs of ensuring firmness of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves shall include follow up costs or ensuring firmness of procured balancing capacity bids in accordance with paragraph 1, which are caused by the curtailment of firm cross-zonal capacity in the event of force majeure or emergency situations. These costs also include the additional costs from the procurement of balancing capacity due to the non-availability of the balancing capacity given the curtailment of cross-zonal capacity.
6. The costs of ensuring firmness shall be shared in accordance with the regional methodologies developed in accordance with article 74 of the CACM Regulation and article 76 of the SO Regulation for cases which are within the scope of these methodologies.
7. Any costs of ensuring firmness which are outside the scope of the methodologies referred to in paragraph 6 shall be borne by the Core TSO requesting the curtailment.
8. Core TSOs shall not increase the transmission reliability margin which is calculated pursuant to article 21 of the CACM Regulation due to the exchange of balancing capacity or sharing of reserves for aFRR, mFRR, and RR.

Article 12

Sharing of Congestion Income from cross-zonal capacity

1. The congestion income coming from the application of this methodology for market-based allocation will be considered as day-ahead congestion income and as such shall be shared according to the methodology of 73 of the CACM Regulation and according to article 41(4) of the EB Regulation.
2. The amount of congestion income to be transferred to the SDAC is determined as the sum of the congestion income determined for each BZB of the application of the market-based methodology as set out in Article 12(3).
3. For each day-ahead MTU and for each BZB of the application of this market-based methodology, the allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be multiplied with the actual day-ahead market spread at the concerned BZB and the direction for the concerned day-ahead MTU resulting from the SDAC only in case the price difference is positive in the direction of the allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per day-ahead MTU. Otherwise, the congestion income is 0 EUR/MWh.
4. If a surplus remains from the process described in Article 12(3), it shall be assigned to the relevant BZBs of the application of this market-based methodology on a pro-rata basis according to the congestion income originally generated by the exchange of balancing capacity or sharing of reserves.
5. For the BZB where congestion income results from the exchange of balancing capacity or sharing of reserves, the Core TSOs on each side of the BZB shall receive their share of net border balancing income based on a 50%-50% sharing key.
6. In cases where the ownership shares or the shares of investments costs of Core TSOs on both sides of specific interconnectors on the concerned BZBs are different from a 50%-50% split, the

concerned Core TSOs may also use a sharing key due to the different ownership shares, different shares of investments costs, exemption decisions¹ or decisions on cross-border cost allocation² by competent regulatory authorities or the Agency. The sharing keys for these specific cases shall be published in a common document by ENTSO-E on its website for information purposes only. This document shall list all these specific cases with the name of the interconnector, the BZB, the involved TSOs/Parties, the specific sharing key applied and the motivation / reasons for the deviation from the 50%-50% sharing key. The document shall be updated and published promptly as soon as any changes occur. Each publication shall be announced via the ENTSO-E website.

7. In case the BZB consists of several interconnectors with different sharing keys, and the interconnectors are owned by different Core TSOs, the net border balancing capacity congestion income shall be assigned first to the respective interconnectors on that BZB based on each interconnector's contribution to the allocated cross-zonal capacity. The parameters defining the contribution of each interconnector will be agreed by the Core TSOs on the BZB. They shall be published in a common document by ENTSO-E on its website for information purposes only. The document shall be updated and published promptly as soon as any changes occur.
8. In case specific interconnectors are owned by entities other than Core TSOs, the reference to TSOs in this Article shall be understood as referring to those entities.
9. In case physical transmission rights are applied at a certain BZB, the rules on sharing of congestion income from cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves on this certain BZB shall be defined in article 38(1)(a) of the EB Regulation of the TSOs applying this methodology.

Article 13

Publication

1. Core TSOs shall publish this methodology for market-based allocation without undue delay on the ENTSO-E website after all regulatory authorities of the CCR Core have approved this methodology for market-based allocation.
2. Each Core TSO applying the market-based methodology shall publish information on offered volumes as well as offered prices of procured balancing capacity, anonymised where necessary, as soon as possible but no later than one (1) hour after the results of the procurement have been notified to the bidders, pursuant to article 12(3)(f) of the EB Regulation.
3. Each Core TSO applying the market-based methodology shall publish the forecasted market value of cross-zonal capacity for the exchange of energy at the latest one (1) day after the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves.
4. Each Core TSO applying the market-based methodology shall publish information in accordance with article 12(3)(h) of the EB Regulation on the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to article 38(1)(a) of the EB Regulation as soon as possible but no later than six (6) hours before the use of the allocated cross-zonal capacity.

¹

Exemption decision granted to these entities by relevant competent Authorities in accordance with article 63 and with article 6. (9) of Regulation (EU) 2019/943.

² Decisions on cross-border cost allocation granted to these entities by relevant competent Authorities or the Agency in accordance with article 12(4) or 12(6) of Regulation (EC) 347/2013.

5. Each Core TSO applying the market-based methodology shall inform on the use of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to article 38 of the EB Regulation at the latest one (1) week after the use of allocated cross-zonal capacity, pursuant to article 12(3)(i) of the EB Regulation.
6. Subject to approval pursuant to article 18 of the EB Regulation, a Core TSO applying the market-based methodology may withhold the publication of information on offered prices and volumes of balancing capacity bids if justified for reasons of market abuse concerns and if not detrimental to the effective functioning of the electricity markets. A Core TSO applying this market-based methodology shall report such withholdings at least once a year to the relevant regulatory authority in accordance with article 59 of Directive (EU) 2009/944 and pursuant to article 12(5) of the EB Regulation.
7. Core TSOs applying the market-based methodology shall publish the efficiency of the forecasted market value for the exchange of energy to their respective regulatory authorities and market participants to analyse the forecast efficiency.

Article 14

Implementation Timeline

1. By four (4) months after approval of this methodology for market-based allocation, all Core TSOs shall publish on the ENTSO-E website an implementation impact assessment and notify all Core regulatory authorities and ACER. The progress and content of the implementation impact assessment shall be monthly reported to the Core regulatory authorities.
2. The implementation impact assessment shall address:
 - a. flow-based compatibility;
 - b. further detailing the calculation of the shadow prices including adjustment factors and mark-ups pursuant to Article 7;
 - c. alignment with relevant nominated electricity market operators on the support of determining the shadow prices of the reference days; and
 - d. applicability of the chosen congestion income calculation for the exchange of balancing capacity or sharing of reserves, including impact on long term transmission rights pursuant to Article 12.
3. By six (6) months after approval of this methodology for market-based allocation, all Core TSOs shall submit an amendment of this methodology for market-based allocation to the Core regulatory authorities subject to the findings of the implementation impact assessment pursuant to paragraph 2.
4. After Core NRA approval of the amendments pursuant to paragraph 3, this methodology for market-based allocation shall be considered implemented in accordance with article 5(3) of Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union for the Cooperation of Energy Regulators (hereinafter – ACER Regulation).

Article 15

Language

1. The reference language for this Core TSOs' methodology for market-based allocation shall be English. For the avoidance of doubt, where Core TSOs need to translate this Core TSOs' methodology for market-based allocation into their national language(s), in the event of inconsistencies between the English version published by Core TSOs in accordance with article 7 of the EB Regulation and any version in another language, the relevant Core TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of this Core TSOs' methodology for market-based allocation to their relevant Core regulatory authorities.