

# **EXPLANATORY DOCUMENT on the Proposals for RCC tasks of regional sizing of reserve capacity and facilitating the regional procurement of balancing capacity in accordance with article 37(5) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity**

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## INTRODUCTION

This explanatory note jointly describes the TSOs' approach for the ENTSO-E proposals for the Regional Coordination Centres' (RCCs) tasks according to Articles 37(1)(j) and 37(1)(k) of the Regulation (EU) 2019/943 (hereinafter "Electricity Regulation"). Therefore, it gives background to the ENTSO-E proposal for the RCC tasks 'regional sizing of reserve capacity' and 'facilitating the regional procurement of balancing capacity'.

For the tasks set out in Article 37(1) of the Electricity Regulation and not already covered by the relevant Network Codes or Guidelines, ENTSO-E shall develop a proposal according to Article 37(5) of the Electricity Regulation based on the procedure set out in Article 27 of the Electricity Regulation. RCCs shall carry out those tasks on the basis of the proposal following its approval by ACER.

ENTSO-E identified that the RCC tasks according to Article 37(1)(j) of the Electricity Regulation – regional sizing of reserve capacity – and Article 37(1)(k) of the Electricity Regulation – facilitating the regional procurement of balancing capacity – are not yet fully covered by the relevant network codes or guidelines. Therefore, ENTSO-E decided to draft an ENTSO-E proposal defining these tasks to have a coordinated understanding of the general aspects of the tasks. For the avoidance of doubt, regional in this context means the cross-border interaction of TSOs related to reserve capacity and procurement of balancing capacity.

The facilitation by the RCC shall be in line with the existing and applicable European and National legal framework. Therefore, the RCC tasks defined in the ENTSO-E proposal must not go beyond facilitating the TSOs tasks of 'dimensioning of reserve capacity' according to Article 6(7) of the Electricity Regulation and 'procurement of balancing capacity' according to Article 6(8) Electricity Regulation. The allocation of facilitating tasks to the RCC shall focus on providing an added value to these TSOs' tasks. TSOs shall have the final decision as they are obliged by regulation to perform these tasks. Additionally, TSOs' legal obligations and local approaches, reflecting technical needs of the system, to define reserve capacity requirements and translating them into balancing capacity procurement amounts shall be respected.

An additional challenge is to make the link to not yet approved or even drafted methodologies (e.g. Methodology to harmonise the methodology for the allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per timeframe pursuant to Article 40 and, where relevant, pursuant to Articles 41 and 42 according to Article 38(3) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereinafter "EB Regulation"). For the sake of completeness, it is important to mention that the existing legal framework shall be respected in any RCC task.

Defining the needs for reserve capacity			Ensuring the needs for Reserve Capacity	Covering the needs for reserve capacity
TSOs' task	Mandatory Facilitation by RCC	TSOs' task	Calculation of procurement amounts by TSOs Optional Facilitation by RCC	Procurement of Balancing Capacity by TSOs Optional Facilitation by RCC
Art. 6(7)	Art. 6(7) + 37(1)(j) + AN I 7	Art. 6(7)	Art. 6(8) + 37(1)(k) + AN I 8.1	Art. 6(8) + 37(1)(k) + AN I 8.2
Dimensioning of Reserve Capacity on LFC Block Level	Regional Sizing of Reserve Capacity	Short Term Adaption of Dimensioning on LFC Block level (if allowed by NRA)	Calculation of amount of BC to be procured in LFC Block	Procurement of Balancing Capacity
D-1		...		BC GCT

Figure 1 Facilitation of RCC tasks in TSO's processes

Figure 1 shows the envisaged facilitation of the RCC according to Article 37(1)(j) of the Electricity Regulation – regional sizing of reserve capacity – and Article 37(1)(k) of the Electricity Regulation – facilitating the regional procurement of balancing capacity – in the TSOs' tasks listed above.

With regards to the TSOs' task of dimensioning of reserve capacity, the facilitation by the RCC is considered as mandatory as TSO's dimensioning process shall be facilitated at regional level according to Article 6(7) of the Electricity Regulation. With regards to the TSOs' task of procurement of balancing capacity the facilitation by the RCC is only considered mandatory for TSOs allocating cross zonal capacity for the exchange of balancing capacity or sharing of reserves with neighbouring TSOs following Article 38(3) EB Regulation. The facilitation by the RCC must also be provided to TSOs accounting for volumes of non-contracted balancing energy bids, which are expected to be available within the European platforms or there is a regional (cross-border) procurement of balancing capacity (balancing capacity cooperation) in place.

# RCC TASK “REGIONAL SIZING OF RESERVE CAPACITY” ACC. TO ARTICLE 37(1)(J) ELECTRICITY REGULATION

## Relevant legislation and background

Article 40 of the Directive (EU) 2019/944 as well as requirements of the Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereinafter “SO Regulation”) describe the responsibilities of TSOs for local reserve dimensioning. In accordance, Article 6(7) of the Electricity Regulation requires that the dimensioning of reserve capacity shall be performed by the TSOs and shall be facilitated at a regional level. ENTSO-E understands that this facilitation is to be considered as a mandatory RCC task. This facilitation by an RCC shall respect the existing legal framework and provide added value to TSOs of the corresponding system operation region with a focus on the consideration of reserve sharing on a regional level. This task of an RCC facilitating the TSOs’ task of dimensioning reserve capacity on a regional level shall fully respect the local reserve dimensioning process and be based on its results, performed and owned by TSOs forming a Load Frequency Control (LFC) block, to maintain sufficient reserves in the region covering those LFC blocks.

Article 32(1) of EB Regulation requires among others that all TSOs of an LFC block shall regularly and at least once a year review and define the reserve capacity requirements for the LFC block or scheduling areas of the LFC block pursuant to dimensioning rules as referred to in Articles 157 and 160 SO Regulation respecting the requirements of Article 127 SO Regulation. The SO Regulation obliges TSOs to perform the dimensioning of frequency restoration reserves (FRR) and, when implemented, RR on the level of LFC blocks. The frequency restoration process is designed to control the frequency restoration control error towards zero by activation of manual and automated FRR within the time to restore frequency. In this way, the frequency is controlled to its set point value. This process may be accompanied by restoration reserves (RR) to restore the activated FRR and, additionally for Great Britain (GB) and Ireland/Northern Ireland (IE/NI), to restore the activated Frequency Containment Reserves (FCR).

Article 157(2) SO Regulation requires that the FRR dimensioning shall take into account the restrictions defined in the agreements for the sharing or exchange of reserves due to possible violations of operational security and the FRR availability requirements when applying the probabilistic dimensioning methodology. Additionally, all TSOs forming an LFC block shall take into account any expected significant changes to the distribution of LFC block imbalances or take into account other relevant influencing factors relative to the time period considered. Furthermore, all TSOs of an LFC block shall determine the reserve capacity on FRR of an LFC block, any possible geographical limitations for its distribution within the LFC block and any possible geographical limitations for any exchange of reserves or sharing of reserves with other LFC blocks to comply with the operational security limits. Additionally, all TSOs of an LFC block may reduce the reserve capacity on FRR of the LFC block resulting from the FRR dimensioning process by concluding an FRR sharing agreement with other LFC blocks.

Article 160 SO Regulation allows that all TSOs of an LFC block implementing a RR process (RR TSOs) may reduce the reserve capacity on RR of the LFC block, resulting from the RR dimensioning process, by developing an RR sharing agreement for positive or negative reserve capacity on RR with other LFC blocks. Article 160(4)(b) SO Regulation integrates requirements for TSOs to check the operational security before any sharing or exchange of RR.

Based on Article 6(7) of the Electricity Regulation ENTSO-E understands the RCC task ‘regional sizing of reserve capacity’ as a supplementing task on regional level to the TSOs’ task of ‘dimensioning of reserve

capacity'. This includes that no method similar to dimensioning according to Articles 157 and 160 SO Regulation is applied at any regional level across LFC blocks. The time frame given in Article 32(1) EB Regulation (at least once a year) together with the time frame of the RCC task regional sizing of reserve capacity (day-ahead or intraday) underlines that this RCC task can only build upon the TSO's dimensioning. Added value to TSOs may be provided by a short term recommendation by the RCC to adapt the locally dimensioned reserve capacity needs in case of reduced availability of the amounts of external reserve capacity relied on by an TSO based on an existing sharing agreement.

In this context, ENTSO-E considers the proposal for the facilitating task of the RCC under Article 37(1)(j) of the Electricity Regulation to create added value for the TSOs process of dimensioning reserve capacity as the RCC will facilitate the establishment of sharing agreements with the associated increase of efficiency.

## ENTSO-E proposal on the RCC task “regional sizing of reserve capacity” according to Article 37(1)(j) Electricity Regulation

'Regional sizing of reserve capacity' describes a task of RCCs to facilitate TSOs in their task of 'dimensioning of reserve capacity' to ensure sufficient overall reserve capacity to fulfil their frequency quality defining parameter and frequency restoration control error target parameters.

Due to the pure operational and technical focus of the dimensioning process based on SO Regulation, the focus of the RCC task of 'regional sizing of reserve capacity' is not on reducing the tender quantities of reserve capacity considered necessary per LFC Block, but on increasing system operational security by guaranteeing appropriate reserve capacity on a regional level. In particular, the TSOs' consideration of restrictions defined in the agreements for the sharing of reserves or exchange of reserves due to possible violations of operational security, the FRR availability requirements and possible limitations for any sharing of reserves or exchange of reserves with other LFC blocks to comply with the operational security limits (Article 157(2)(b) and (g) SO Regulation) shall be facilitated on a regional level by the RCC.

The RCC task of 'regional sizing of reserve capacity' according to Article 37(1)(j) of the Electricity Regulation shall check the availability of the amounts of external reserve capacity relied on by an TSO based on an existing sharing agreement to facilitate TSOs and, if considered necessary, to adapt the reserve capacity need of the LFC block resulting from the local dimensioning process to maintain system operational security in the region. Both, the TSO's dimensioning processes and the RCC's facilitation, can be clearly separated from each other with different objectives, different responsibilities and different timeframes.

According to Article 152(1) SO Regulation the objective of dimensioning reserve capacity (FRR with automatic activation (aFRR), FRR with manual activation (mFRR) and RR) according to Articles 157 and 160 SO Regulation is to determine the reserve capacity need on an LFC block level in order to comply with the frequency restoration control error (FRCE) target parameters and dimensioning rules and thus ensuring operational security. The focus is on compliance with technical requirements. Additionally, TSOs may conclude reserve sharing agreements between themselves with the approval of national authorities to decrease the reserve capacity of the LFC block resulting from the dimensioning process. For these TSOs, the task 'regional sizing of reserve capacity' performed by the relevant RCC will have the highest added value since it will ensure operational security in a scenario where the simultaneity of factors considered when determining the reserve capacity of the LFC block needs to be checked beyond the LFC blocks. The focus of this process shall be on considering cross-border effects and the facilitation of implementing sharing of reserve capacity between two LFC blocks.

The sharing of reserves allows TSOs to decrease the reserve capacity of the LFC block resulting from the dimensioning process (performed separately by each of the TSOs) by concluding a sharing agreement between themselves. In the event that simultaneously (correlated) activation of shared reserves is required or a system situation not allowing for the provision of the initially forecasted volumes of shared reserves, there is a risk of insufficient reserve capacity in the region. Where reserve sharing agreements exist, the RCC shall facilitate the relevant TSOs in determining the reserve capacity of the LFC block by notifying the involved TSOs where and when the risk of simultaneously (correlated) activation of the reserves exists. If this event poses a threat to the operational security of the system operation region, the RCC task results in recommending a possible reduction of the amount of shared reserves to the relevant TSOs. Thus, this RCC task contributes significantly to ensuring system security in the system operation region.

The RCC task of 'regional sizing of reserve capacity' implies high value for the TSOs having concluded sharing agreements between themselves, since in conjunction with the short-term adequacy assessment acc. to Article 37(1)(e) of the Electricity Regulation, it facilitates the TSOs' consideration of sharing amounts when determining the reserve capacity of the LFC block resulting from the local dimensioning process by taking into account the regional assessment of threats or restrictions in sharing of reserves due to possible violations of operational security and due to correlation of phenomena that might limit the potential for sharing of reserves.

In general, the task of 'regional sizing of reserve capacity' performed by RCCs is understood by TSOs as a process which takes place after TSO's dimensioning in a day-ahead or intraday timeframe. Thereby, the RCC task 'regional sizing of reserve capacity' takes place in full respect of the existing methodologies and processes approved locally by National Regulatory Authorities (NRAs) and already implemented by TSOs on an LFC block level. The results of the regional sizing performed by RCCs may be used by TSOs for a short-term increase of their required reserve capacity on LFC block level, if allowed by local NRAs.

The following two steps are included in the task of 'regional sizing of reserve capacity' to be performed by an RCC:

- Adequacy assessment of sufficient reserve capacity on a regional level with the aim of checking the availability of sufficient balancing reserves as well as sufficient cross-zonal capacity for the sharing of balancing capacity.
- Awareness notification to the TSOs on the restrictions limiting the amount of shared reserve capacity so that relevant TSOs can increase required reserve capacity on an LFC block level on a short-term basis (day-ahead) based on the performed analysis.

The key focus of the RCC task of 'regional sizing of reserve capacity' shall be assessing the availability of cross-zonal capacity which will facilitate the TSOs' determination of reserve capacity on a regional level. If based on the adequacy assessment performed by the RCCs, the availability of shared reserve capacity cannot be guaranteed due to simultaneously expected demands for reserve capacity in the relevant LFC blocks, the RCC shall notify these LFC blocks. Thus, the RCC recommendation requires the relevant TSO to increase locally available reserve capacity, up to a maximum of the reserve capacity resulting from the dimensioning process, as the TSO can no longer reduce its dimensioned reserve capacity by the sharing amount without threatening the system operational security. If the RCC determines that there is not sufficient cross-zonal capacity available for the sharing of reserve capacity, the RCC shall recommend relevant TSOs to increase locally available reserve capacity, up to a maximum of the reserve capacity resulting from the dimensioning process, as the TSO can no longer reduce its dimensioned reserve capacity by the sharing amount.

Based on the described analysis the process of regional sizing of reserve capacity shall be concluded by a day-ahead or intraday awareness notification in case of unexpected developments in the region and a recommendation for a short term increase of the required reserve capacity on LFC block level or the reduction of sharing amounts between LFC blocks. If the recommendation includes an adjustment of sharing, the concerns of affected TSOs, according to applicable guidelines and agreements, shall also be taken into account. The RCC's process of regional sizing of reserve capacity shall result in a recommendation to TSOs to

increase their required local reserve capacity and to decrease the sharing volumes between LFC blocks because an event is foreseen that may endanger the regional system stability due to insufficient reserves. Therefore, the calculations performed by the RCC results in a value for the short term adaptation to be recommended to TSOs. A TSO may decide to deviate from a recommendation made by the RCC but if a TSO decides to do so, it shall submit a justification for its decision to the relevant RCC and to the other TSOs of the system operation region without undue delay according to Article 42(3) of the Electricity Regulation

The proposed High Level Principles for the RCC task “regional sizing of reserve capacity” fulfil the objectives of the Electricity Regulation as the recommendation for the short term increase of required reserve capacity facilitates the TSOs’ task of determining the reserve capacity of the LFC block resulting from the local dimensioning process in ensuring operational security. More confidence is given to TSOs that there would be no decrease in system operational security when concluding a sharing agreement between themselves. From an economic efficiency point of view, the proposed RCC task avoids high expenses for remedial actions to maintain operational security in case of insufficient balancing capacity available. Thus, the RCC task ‘regional sizing of reserve capacity’ allows TSOs to ensure operational security with regards to complying with their frequency quality defining/target parameters in a cost-effective manner by regional cooperation. Additionally, the recommendation for a short term increase of required reserve capacity can be made day-ahead and intraday, in full respect of the existing local processes. A recommendation by the RCC must be available before the local balancing capacity gate-closure time.

The result represents a lower bound for the required reserve capacity of each type in the system operation region. This amount of reserves is at least required to fulfil the minimum requirements set out in Articles 157(2) and 160 SO Regulation ending up in a solution guaranteeing sufficient reserve capacity in a region.

### Numerical Example for Sharing of Reserves

The following scenario is based on a System Operation Region (SOR) consisting of four Load Frequency Control Blocks (LFCB). Each LFCB *i* has a reserve requirement (RC<sub>dim,i</sub>). This requirement is the result of each individual LFCB’s dimensioning process on FRR or RR. In the scenario the LFCBs have concluded sharing of reserves agreements. One underlying assumption of the numerical example is that the demands for reserves of each LFCB are stochastically independent. Also shown are the sharing amounts, which may be the result of operational constraints and market outputs, respecting regulation requirements. Using this data, the regional sized reserve capacity (RC<sub>r</sub>) is calculated. For the scenario only positive reserves were considered, but equally the LFCBs could have concluded agreement for the sharing of negative reserves.

The scenario looks at unilateral and bilateral agreements for the sharing of reserves and sharing without a common border. As LFCB 2 and LFCB 4 do not have a common border, their sharing agreement will include LFCB 3 as an affected LFCB.

**SOR X**

<b>LFCB 1</b>		<b>LFCB 2</b>	
RC <sub>dim,1</sub>	1100	RC <sub>dim,2</sub>	1400
Negative	xxx	Negative	xxx
<b>LFCB 3</b>			
RC <sub>dim,3</sub>	1500		
Negative	xxx		
<b>LFCB 4</b>			
RC <sub>dim,4</sub>	500		



Negative	xxx
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To explain the arrangements on sharing of reserves in place:

- The sharing of reserves agreement between LFCB 1 and LFCB 2 is a bilateral sharing of reserves agreement as LFCB 1 has agreed to share up to 200 MW of its reserve with LFCB 2 and LFCB 2 has agreed to share up to 200 MW of its reserve with LFCB 1. This allows both LFCBs to reduce their locally dimensioned reserves by up to a maximum of 200 MW each. The maximum agreed sharing amount between LFCB 1 and LFCB 2 is thus 200 MW in each direction. This results in a possible overall reduction of local dimensioned reserve capacity in the region of 400 MW resulting from this sharing of reserves agreement.
- LFCB 1 has a unilateral sharing agreement with LFCB 3. In this agreement LFCB 3 has agreed to share up to 200 MW of its reserve with LFCB 1, but LFCB 1 does not share any of its reserve with LFCB 3. Thus, LFCB 1 can reduce its locally dimensioned reserves by up to a maximum of 200 MW.
- LFCB 1 does not have a sharing agreement with LFCB 4.
- LFCB 2 and LFCB 3 have a bilateral sharing agreement with up to 100 MW in each direction. This allows both LFCBs to reduce their locally dimensioned reserves by up to a maximum of 100 MW each. The maximum agreed sharing amount between LFCB 2 and LFCB 3 is thus 100 MW in each direction. This results in a possible overall reduction of local dimensioned reserve capacity in the region of 200 MW resulting from this sharing of reserves agreement.
- LFCB 2 and LFCB 4 have a bilateral sharing agreement with up to 100 MW in each direction. As they do not have a common border LFCB 3 will have to be included as an affected LFCB. This allows both LFCBs to reduce their locally dimensioned reserves by up to a maximum of 100 MW each. The maximum agreed sharing amount between LFCB 2 and LFCB 4 is thus 100 MW in each direction. This results in a possible overall reduction of local dimensioned reserve capacity in the region of 200 MW resulting from this sharing of reserves agreement.

On a particular day, the sharing amounts in the day ahead timeframe are shown:

- Based on their bilateral sharing agreement LFCB 2 is scheduled to share its maximum agreed amount with LFCB 1 and LFCB 1 is not scheduled to share any reserve with LFCB 2.
- Based on their bilateral sharing agreement LFCB 2 is scheduled to share its maximum agreed amount with LFCB 4 and LFCB 4 is scheduled to share 50 MW (half of its maximum agreed amount) with LFCB 2.
- Based on their unilateral sharing agreement LFCB 3 is scheduled to share its maximum agreed amount with LFCB 1.

The above dimensioned reserve capacity for each LFCB and the day ahead sharing amounts per direction are provided to the RCC, which then performs the calculation of the regional sized reserve capacity.

RC <sub>dim,1</sub>	-	SA <sub>2,1</sub>	-	SA <sub>3,1</sub>
1100	-	200	-	100
+				

	$RC_{dim,2}$	-	$SA_{4,2}$	
	1400	-	50	
$RC_{rs}$	+			
=	$RC_{dim,3}$			
	1500			
	+			
	$RC_{dim,4}$	-	$SA_{2,4}$	
	500	-	100	
	4500		450	

The dimensioned reserve of the SOR is 4,500 MW. Taking sharing into account the resulting regional sized reserve capacity is 4,050 MW.

The LFCBs making use of sharing will, in addition, provide the RCC with uncertainties related to current generation and load forecasts. Based on the calculated regional sized reserve capacity and the uncertainties, the RCC may provide a recommendation on adjusting the amount of shared reserves used to decrease the final required reserve capacity for each type of reserves on LFCB level.

From SO Regulation article 157(2)(j)(i), for CE and Nordic synchronous areas, the amount of FRR that a LFC block can share is limited to the difference, if positive, between the size of the positive dimensioning incident and the reserve capacity on FRR required to cover the positive LFC block imbalances during 99% of the time. Additionally, the reduction in positive reserve capacity cannot exceed 30% of the dimensioning incident.

In this numerical example it has been assumed that there is sufficient positive difference to allow the shared amounts.

In the numerical example no LFC block exceeds the 30% limit on the day in question. However, if LFC block 1 made full use of both its sharing agreements (400 MW) it could exceed its 30% limit (330 MW). As this would be in contravention of SO Regulation its maximum allowed reduction is 330 MW.

## RCC TASK “FACILITATING THE REGIONAL PROCUREMENT OF BALANCING CAPACITY” ACC. TO ARTICLE 37(1)(K) ELECTRICITY REG.

According to Article 6(8) of the Electricity Regulation, the procurement of balancing capacity shall be performed by the TSO and may be facilitated at a regional level. In addition, Article 32(1) EB Regulation states that each TSO shall perform an analysis on optimal provision of reserve capacity aiming at minimisation of costs associated with the provision of reserve capacity. This analysis shall take into account the following options for the provision of reserve capacity:

- procurement of balancing capacity within control area and exchange of balancing capacity with neighbouring TSOs, when applicable;
- sharing of reserves, when applicable; and
- the volume of non-contracted balancing energy bids, which are expected to be available both within their control area and within the European platforms taking into account the available cross-zonal capacity.

Furthermore, Article 167 and Annex VII SO Regulation require TSOs to procure at least 50 % of their FRR capacity within their LFC Block (known as core shares within CE) and Art. 169 and Annex VIII SO Regulation requires RR TSOs to procure at least 50 % of their RR capacity within their LFC Block.

Basic obligations, roles and responsibilities first, can be summarised as follows:

- Each TSO shall operate its control area with sufficient upward and downward active power reserves, which may include shared or exchanged reserves, to face imbalances between demand and supply within its control area, according to Article 152 (1) SO Regulation. This for example means that each TSO remains responsible for ensuring that a sufficient amount of balancing capacity is available for the respective control area.
- Article 34(2) of the Electricity Regulation charges TSOs to promote the integration of balancing mechanisms which is fulfilled by implementation of EB Regulation requirements. But neither EB Regulation nor the Electricity Regulation obliges TSOs to share reserves or exchange balancing capacity cross-border. Thus, the sharing of reserves (and the exchange of balancing capacity) remains non-mandatory for TSOs.
- Each TSO shall also take into account the volume of non-contracted balancing energy bids which are expected to be available both within their control area and within the European platforms taking into account the available cross-zonal capacity at the balancing energy timeframe, when analysing the optimal provision of reserve capacity (Article 32(1) EB Regulation). Thus, each TSO might consider a reduction of the procurement amount of balancing capacity dependent on probabilistic methodologies pre-estimating volumes of non-contracted balancing energy bids which may be available both within their control area and within the European platforms.

Given the above, the potential for a regional coordination is an RCC's role to facilitate the secure and efficient regional procurement of balancing capacity by supporting TSOs

- in determining the amount of balancing capacity that needs to be procured by the assessment of available volumes of non-contracted balancing energy bids which may be available within the European platforms and
- in the procurement of required amount of balancing capacity by an RCC involvement in the application of a cross zonal capacity allocation (CZCA) methodology following EB Regulation.

RCCs facilitating role in the regional balancing capacity procurement process is considered to be of added value if:

- it makes it easier for TSOs to establish the exchange of balancing capacity;
- it does not challenge or even circumvent TSOs' basic obligations, roles, responsibilities and governance on the procurement process for balancing capacity as a whole; and
- It does not restrict freedom of contract between cooperating TSOs beyond legal requirements.

## ENTSO-E proposal on the RCC subtask “Determining the amount of balancing capacity that needs to be procured”

The TSOs determine their procurement amount of balancing capacity based on dimensioned reserve capacity amounts, exchange and sharing agreements, when applicable, and, according to Article 32(1) EB Regulation, volumes of non-contracted balancing energy bids expected to be available on a certain level of reliability.

RCC shall facilitate TSOs of a SOR in determining the amount of balancing capacity that needs to be procured per LFC block. Therefore, the RCC shall check the availability of non-contracted balancing energy bids which are expected to be available within the European platforms by TSOs for their locally optimal provision of reserve capacity according to Article 32(1)(c) EB Regulation at least on a day-ahead basis.

The expected volume of non-contracted balancing energy bids which are expected to be available within the European platforms is equal to the volume of balancing energy bids exceeding the local reserve capacity needs per participating TSO of each European balancing platform per type of reserves and direction and per validity period of the relevant balancing capacity market. This results from summing up the quantities of all bids in the respective merit order list and subtracting the final determined reserve capacity for each type of reserves and direction per relevant TSO. The expected volume of non-contracted balancing energy bids which are expected to be available within the European platforms shall additionally be monitored by the RCC.

If a TSO considers non-contracted balancing energy bids which are expected to be available within the European platforms for its local provision of balancing capacity, it shall notify the RCC about that. The RCC shall coordinate this on a regional level in case there is not sufficient volume of non-contracted balancing energy bids which are expected to be available within the European platforms availability in reality for all TSOs considering them or not sufficient CZC is available to guarantee the access to the expected volumes.

## ENTSO-E proposal on the RCC subtask “Supporting procurement of required amount of balancing capacity”

If there is a regional (cross-border) procurement of balancing capacity (balancing capacity cooperation) under Article 33 and Article 38 EB Regulation in place, RCC shall facilitate TSOs in the regional procurement of balancing capacity. The RCC should only facilitate those TSOs in the SOR which perform a regional procurement of balancing capacity.

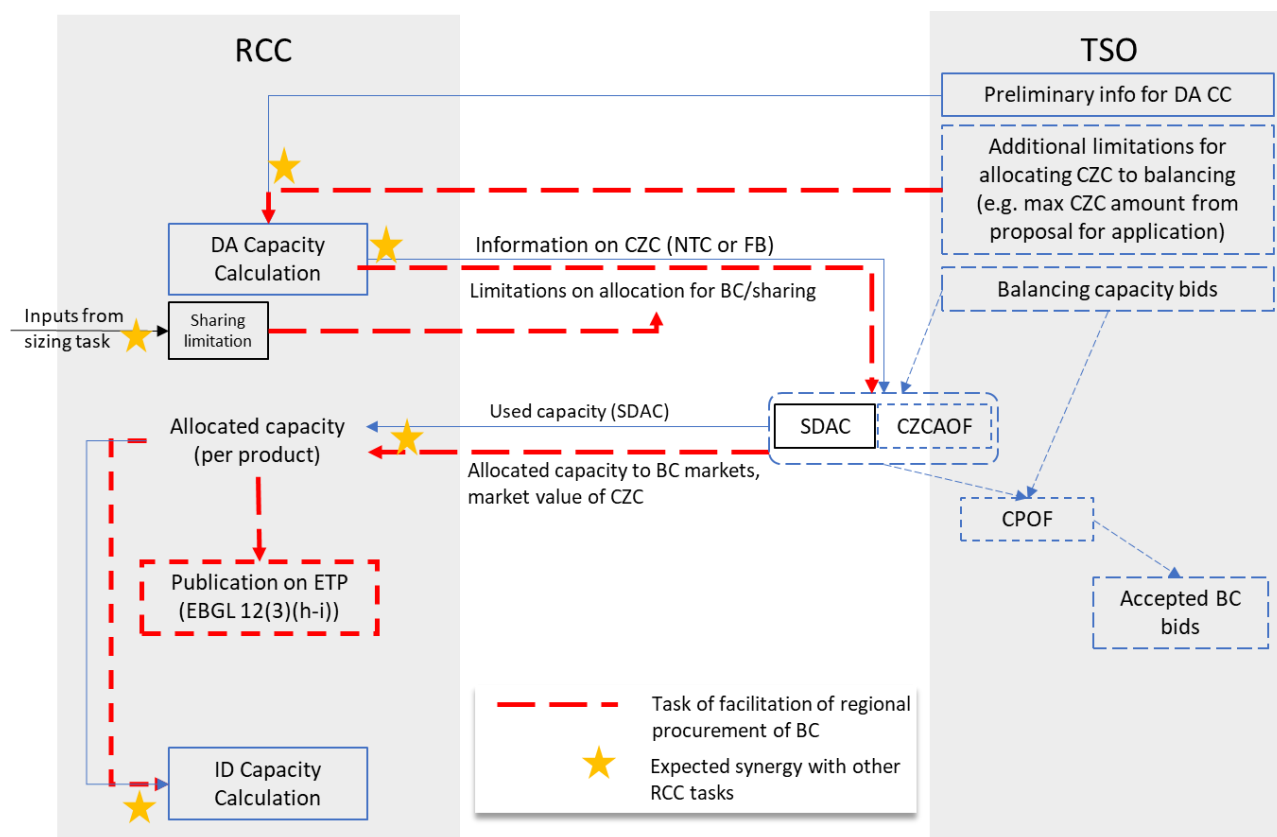
In order to respect local relations of TSOs and balancing service providers (BSPs), only TSOs' tasks which are related to TSO-TSO cooperation will be taken into account for facilitation by the RCC. This includes, for example, the methodologies acc. to Article 38(3) EB Regulation for the allocation process of cross-zonal capacity. Tasks which are already delegated to specific entities are excluded from this overview. TSOs of a balancing capacity cooperation acc. to Art. 33 (1) EB Regulation may specify after the approval of the methodology acc. to Article 38(3) EB Regulation which tasks to delegate from this methodology to the RCC. Therefore, processes for procurement may vary between the different timeframes of the applications using the methodology of Article 38(3) EB Regulation within each region. Only the tasks which are related to TSOs' regional procurement of balancing capacity may hereby be taken into account.

The RCC shall facilitate two or more TSOs performing a regional procurement of balancing capacity by taking over data collection and reporting tasks related to the application of the Methodology according to Article 38(3) EB Regulation, in a way that is compatible with both such methodology and other RCC tasks.

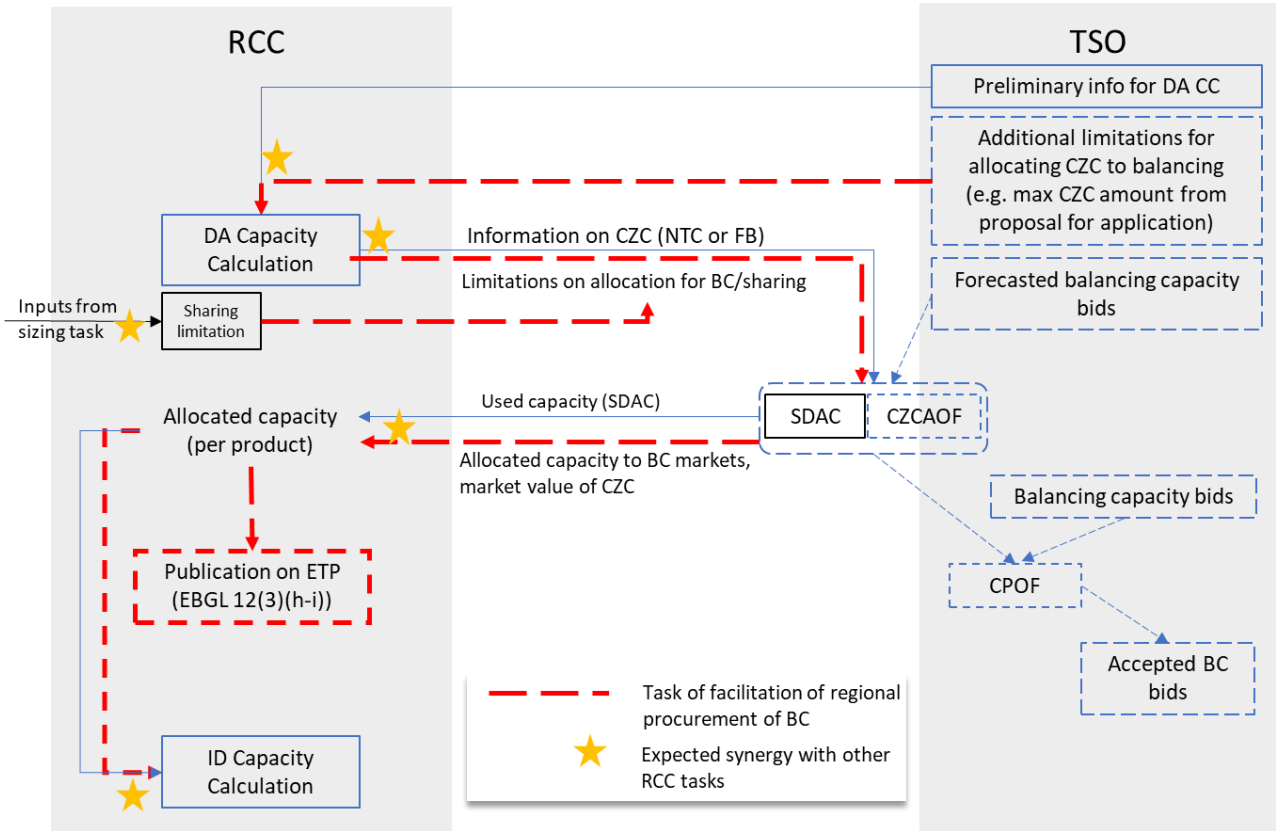
Based on the available version of "CACM 2.0" at the time of drafting this document, synergies were identified between the RCC task of sending capacity information to the market coupling operator (MCO) and the RCC facilitation of procurement of balancing capacity.

For increased efficiency in the implementation and operation of the facilitation of regional procurement of balancing capacity, the same tasks were given to the RCC for each of the cross-zonal capacity allocation timeframes.

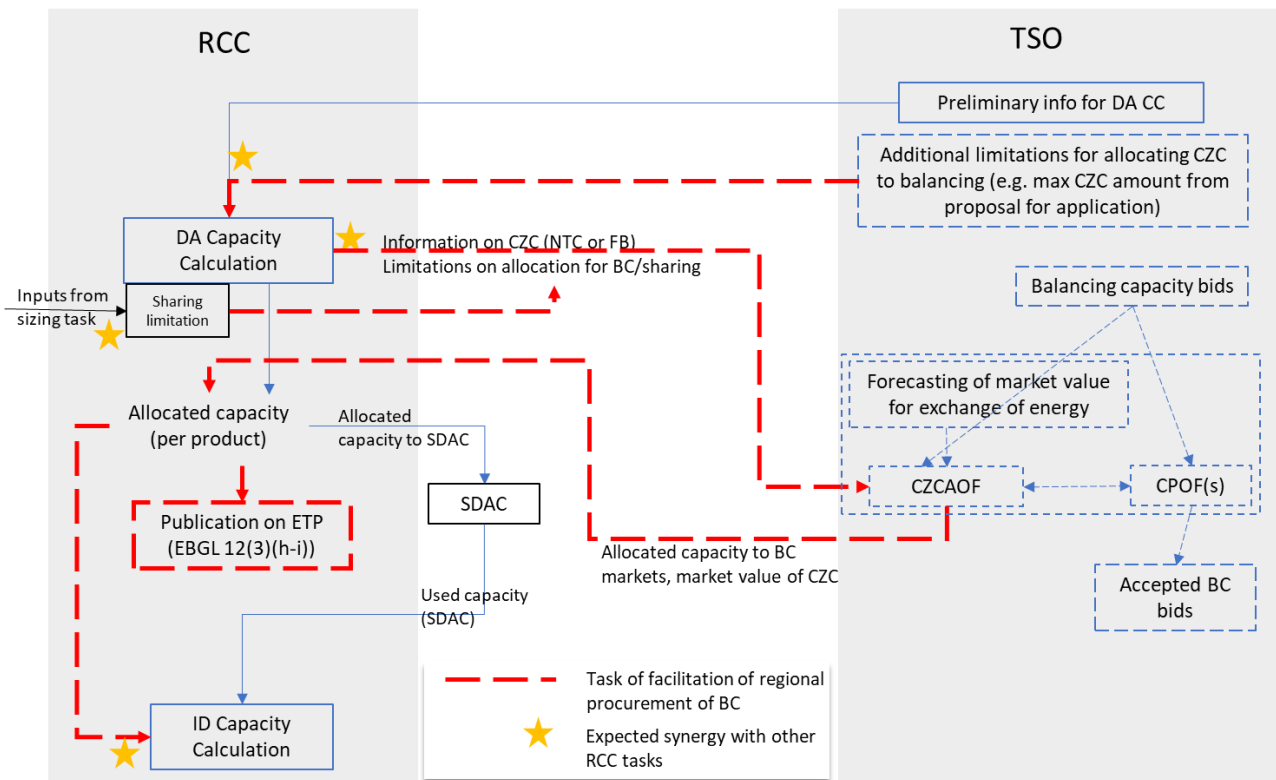
In detail, the facilitation of procurement of balancing capacity where a **co-optimised allocation** of cross-zonal capacity is applied is represented in the following graph:



Similarly, the following graph represents the facilitation of procurement of balancing capacity where an **inverted market-based allocation** of cross-zonal capacity is applied:



The last graph below represents the facilitation of regional procurement of balancing capacity in case a **market-based allocation of cross-zonal capacity is applied**:



The presented graphs are to be considered a valid representation for what pertains to the facilitation of regional procurement of balancing capacity (red lines). All other processes represented are out of scope of this document and are only depicted to clarify the overall day-ahead processes and synergies.

## TIMELINE

In order to take into account, the fact that the RCCs have not been active in the field of balancing until today and thus completely new tasks arise for them, an implementation period of at least 48 months seems appropriate.

Therefore, the following steps and related timings were considered:

- 1 year of design (including RCC-TSOs interactions) and concluding respective working arrangements
- 1 year for drafting the specifications
- 2 years of development + implementation + testing --> some initiative exists for regional procurement (DE-AT or Nordics). Meaning the maturity of the TSOs' IT tools which will interact with RCCs will exist or will be developed in parallel.

Additionally, the links to not already approved methodologies (e.g. 38(3) EB Regulation) and resulting implementation efforts are not fully clear today and therefore put a risk to the implementation timeline.