European Network of Transmission System Operators for Electricity

entsoe

Explanatory note to the First amendment of the Methodology for the regional sizing of reserve capacity

in accordance with Article 37(1)(j) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity

25 March 2026

DISCLAIMER

This document is submitted by Transmission System Operators (TSOs) and Regional Coordination Centres (RCCs) to ACER for information purposes only accompanying the ENTSO-E's proposal for amendment of the Methodology for regional sizing of reserve capacity in accordance with Article 37(1)(j) of the 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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1 Background

Among others, this explanatory note provides further information behind the:

a) The time period considered for the historical records related to in Article 4(4)(a) of the RCC Sizing Methodology; and
b) The levels X, Y included in Article 4(4) of the RCC Sizing Methodology.

2 Explanation behind SOR's proposals

2.1 Baltic SOR

Parameter	Value	Justification
Time period for historical data	1 year	Minimum of 12 months and time of being in the Synchronization with Synchronous Area Continental Europe (to exclude irrelevant data before the of Synchronization event and to be able to allow seasonal variability).
Parameter X	99.90%	Close to 100%, the calculation may provide misleading results due to the outliers that may be present in input data or extrapolation due to fitting to normal distribution.
Parameter Y	99.90%	Close to 100%, the calculation may provide misleading results due to the outliers that may be present in input data or extrapolation due to fitting to normal distribution.

The year saw significant changes taking place in Baltic SOR:

- connection with Synchronous Area Continental Europe on 09.02.2025 *(disconnection from BRELL)*
- having hight grown in renewable energy,
- newly introduced Baltic Balancing Capacity Market,
- grid expansion and strengthening.

Due to those reasons, all data collected until prior are not fully relevant to new situation and data set for relevant calculation provision is still limited and subject to uncertainties. For harmonization purposes chosen parameters was equated with other EU SORs and confirmed in Baltic SOR in May 2025.

Sizing:

Sizing	Baltic SOR	*Example*
Time period	12-month period	*Calculation date: 01.07.2026* *Data used: 30.06.2025 - 30.06.2026*
X value	99.90	*(up to 99.99)*
Y value	99.90 (0.10)	*(up to 99.99*

Explanation:

Due to the above-mentioned reasons:

- historical data will be used for 1 year period starting one day before calculating day, without any offsets.
- X and Y values are chosen to be 99.90 %. However, due to Baltic state renewable increase it can be assumed that the value could increase to 99,99% in the near future.

X and Y values will be assessed each year in case chosen values are not fulfilling their target as mentioned in the Sizing Methodology. Additionally, the demand for past period 01.10.2025 until end of 2025 was considered. Data is visible in the table 1.

Figure 1. Example of imbalance volume data (ACEol) for Baltics from 27.03.2024 to 27.03.2025.

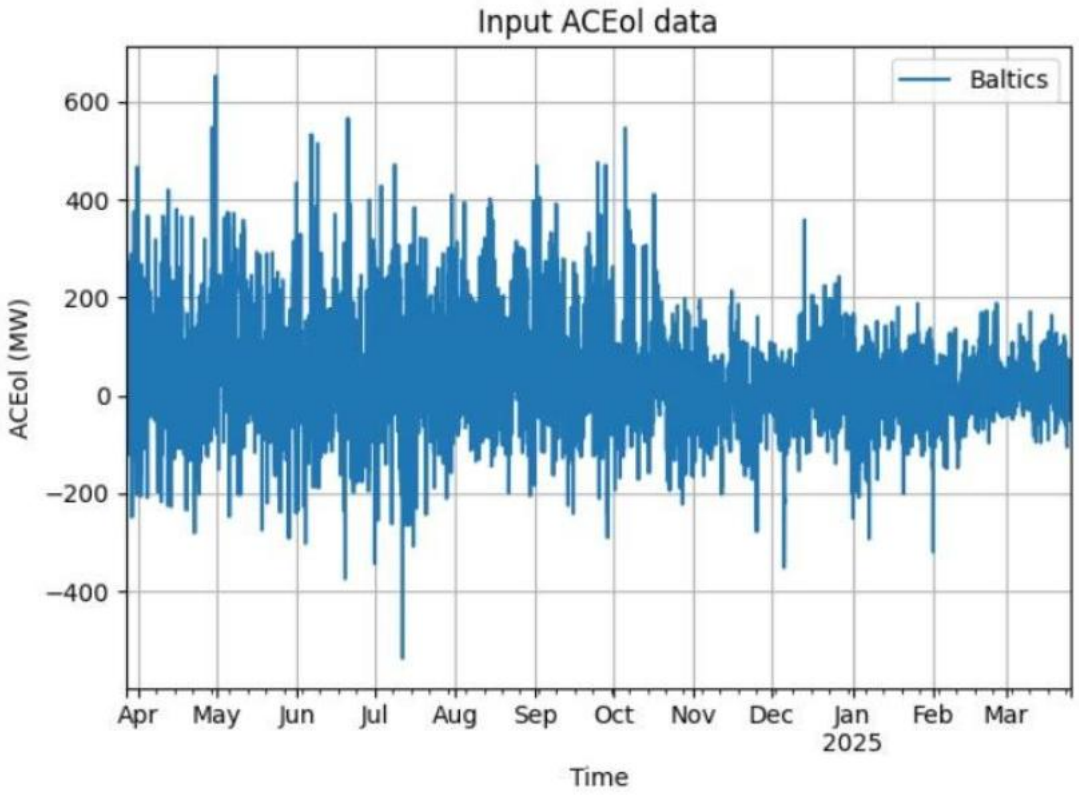

Table 1. X and Y value impact and comparison of sizing incident and historic imbalances data

Quantity	Security levels range	Imbalance value range [MW] (27.03.2024 - 27.03.2025	Uncovered imbalance (Difference between Reference incident and Imbalance data)	Current procurement amounts (01.10.2025-31.12.2025)

Y%	99.90%÷100%	≈-289.8÷-537.3	≈-162.7÷-410.2	≈-678÷-678
X%	99.90%÷100%	≈495.3÷652.8	≈47.2÷204.7	≈765÷764
Reference incident		±700		

2.2 Nordic SOR

Parameter	Value	Justification
Time period for historical data	1 year	
Parameter X	99.5 %	The consolidated value of 99.5% for both X and Y reflects harmonised TSO preferences and aligns with Nordic principles. This threshold minimises reserve needs while maintaining security, avoids undesirable outliers that could inflate future reserve estimates, and supports ambitious targets for efficiency and social welfare. Analysis shows that higher values (e.g., 100%) introduce outliers and overestimate reserve needs, while values ≤99% consistently threaten operational security limits.
Parameter Y	99.5 %	Same as above; the 99.5% threshold is considered the best representation of an average yearly minimum reserve requirement, balancing ambition and system reliability.

The Nordic SOR determined the required probabilistic parameters X% and Y% under the ACER methodology, to ensure that the minimum reserve capacity reflects realistic netting possibilities. The calculations are aligned with the established Sizing methodology, the Nordic FRR methodology, and the Nordic market philosophy. The probabilistic assessment is based on ACE-OL imbalance data for each bidding zone from 2023–2024, applying quantiles across the 50–100% range with increasingly fine resolution towards the upper tail.

Reserve capacity for positive imbalances (downregulation) and negative imbalances (upregulation) is calculated separately, and Table 1 and 2 present the aggregated results.

Table 1: Impact of X Percentile Selection on Coverage of LFC Block Imbalances in the Nordic SOR

X (%)	SOR Positive Imbalances [GW]	Maximum Uncovered Positive Imbalances [GW]	X (%)	SOR Positive Imbalances [GW]	Maximum Uncovered Negative Imbalances [GW]
50 – 99.5	0.537 – 2.468	2.815 – 0.884	99.5 - 100	2.468 – 0	0.884 – 0

Table 2: Impact of Y Percentile Selection on Coverage of LFC Block Imbalances in the Nordic SOR

Y (%)	SOR Positive Imbalances [GW]	Maximum Uncovered Positive Imbalances [GW]	Y (%)	SOR Positive Imbalances [GW]	Maximum Uncovered Negative Imbalances [GW]
50 – 99.5	0.618 – 2.944	3.763 – 1,437	99.5 - 100	2.944 – 0	1.437 – 0

The assessment of minimum reserve capacity at SOR level includes comparing the sizing incident with the historical imbalance and applying the maximum of the two. Operational security mandates that the sizing incident must always be fully covered, and the selection of X and Y must therefore be based on this comparison.

In line with Article 4(3b) of the Methodology for a SOR comprising two LFC blocks, the sizing incident is defined as the combined value of the dimensioning incident in DK1 and that of the Nordic synchronous area. The resulting sizing incident values are presented in Table 3, while Table 4 shows the comparison against historical imbalances and the corresponding quantile coverage.

Table 3: Sizing incident, respectively for up and down regulation.

Sizing Incident Up [GW]	Sizing Incident Down [GW]
2.44	2.45

Table 4: Comparison of sizing incident and historic imbalances

Quantile (%)	Minimum reserve capacity up [GW]	Source up	Minimum reserve capacity down [GW]	Source down
50	2.44	Sizing Incident	2.45	Sizing incident
90	2.44	Sizing incident	2.45	Sizing incident
99	2.44	Sizing incident	2.68	Imbalances
99.5	2.47	Imbalances	2.94	Imbalances
100	3.35	Imbalances	4.38	Imbalances

Setting X% and Y% at the 99.5% quantile strikes a harmonized balance between operational security and ambitious welfare-oriented targets. This approach aligns with the Nordic FRR framework, which serves as the reference and explicitly accounts for dynamic bottlenecks in the Nordic system. As a result, the static reserve capacity in sizing narrows both positive and negative deviations within an acceptable range relative to the dynamic benchmark.

2.3 Central Europe (CE) SOR

Parameter	Value	Justification
Time period for historical data	1 year	Value aligned with the rest of SORs and aligned with the Methodology
Parameter X	100%	The CE SOR, given its size compared to neighbouring SORs, can be modelled as a standalone region. Additionally, the likelihood of significant mutual assistance from other SORs during the potential hours not covered by this risk-driven approach would be minimal. Based on historical data, such value leads to zero quarter hours at SOR level with insufficient reserve capacity to compensate netted imbalances.
Parameter Y	100%	

Background information

Based on ACER's Methodology for the regional sizing of reserve capacity in accordance with Article 37(1)(j) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity approved on 19 July 2023 (the Methodology, in the rest of the document), the relevant TSOs in each SOR, supported by relevant RCC(s), shall determine in a coordinated manner the parameters referred to Article 4(4) to cover the positive and negative SOR imbalances for, respectively, at least X% and Y% of the time based on the historical records of LFC Block imbalances of the region. The following document presents the basic assumptions used at CE SOR level on X%/Y% parameter calibration.

Quantitative analysis on X% and Y% parameters

CE SOR based its assumptions on the most recent historical data available at the time of the assessment which covered 2023 and 2024. As requested by Methodology, the key-drivers for the determination of minimum reserve capacity at SOR level shall be the LFC Block imbalances and the reference incidents from each LFC Block composing the system operation region.

Regarding the CE SOR, the Table 1 below visualizes, ranging from 99% to 100%, the corresponding resulting values, demonstrating how different parametrizations would have influenced the outcomes.

The starting point of the analysis, i.e. 99%, was chosen to ensure consistency with the minimum risk threshold specified in Article 157(2)(h) and (i) of Regulation (EU) 2017/1485.

In accordance with the requirements of Article 4(4), the summed up, per sampling time, LFC Block imbalances of the SOR have been computed and represented. These levels have been compared against the imbalance value associated with the reference incident, per direction. Positive values refer to conditions with surplus of generation while negative ones to deficit of generation as conventionally established in Article 54(6) of Regulation (EU) 2017/2195.

The CE SOR LFC Block imbalances exhibit a steep and more-than-proportional increase as the percentile rises, as estimated by the ratio 99% value to 100% value of the range.

This characteristic has been explicitly considered by the SOR evaluations, to duly take into account any potential underestimation of the required reserve dimensioning.

In addition, it has been verified that, regardless of the accepted X% or Y% coverage level, the impact of the reference incident would in all cases remain fully covered.

Quantity	Security levels range	Value range [GW]	Notes 2023-2024
Y%	99%÷100%	≈-4.3÷-10.0	Netted imbalances range
X%	99%÷100%	≈4.6÷9.4	Netted imbalance range
Reference incident		±3.0	Applicable value[1]

Table 1. CE SOR quantitative estimation

Proposed X% and Y% values at 100% were selected following a prudential approach to ensure system security even under worse-case operating conditions. This approach is particularly relevant in scenarios where power imbalances are subject to greater uncertainty due to the increasing adoption of renewable energy sources. The variability and limited predictability of these sources can have a significant impact on system stability and frequency performance.

In line with the Methodology, the assessment of netted imbalances has been based on the applied security levels which consider the observed amounts of netted imbalances, based on published data for the relevant SOR, to verify that the applied values continue to represent sufficiently realistic netting possibilities. In CE SOR, characterized by multiple and meshed internal borders, the operational context in which netting occurs is inherently more complex and may determine limitations, which has led to selecting higher security levels (i.e., 100%) against observed netting outcomes. Additionally, the sampling approach of imbalances, in line with the applied methodology, provides a standardized representation of system conditions. However, this aggregation may smooth short-duration imbalance peaks that can still be operationally relevant for system security and therefore may not fully capture the intra-interval dynamics of the grid.

Given its size relative to the neighboring SORs, the CE SOR can be appropriately modeled as a standalone region from a reserve management perspective. In addition, the (available) transfer capacities to the neighboring SORs in general but particularly for netting are considered structurally scarce as the SORs were also defined based on the degree of interconnection. Moreover, due to the limited capacity of adjacent SORs to provide substantial mutual assistance, the magnitude of any support towards the CE SOR, particularly during the hours not covered by a risk driven approach, would remain inherently constrained.

Lastly, considering the limited operational experience with this regional service, CE SOR LFC Blocks deem of utmost importance the annual revaluation of the recalled X% and Y% parameters, as foreseen in Article 4(8) of the Methodology, to efficiently fine tune, where relevant, the enforced calibration.

2.4 South-East Europe (SEE) SOR

Parameter	Value	Justification

[1] Starting from 2026, the reference incident of CE SOR will consider the application of methodology for the probabilistic FCR dimensioning in the Continental Europe synchronous area developed in accordance with Article 153(2) of the Commission Regulation (EU) 2017/1485.

Time period for historical data	1 year	One year time period for the calculation of X and Y is proposed to ensure that the values capture the most recent imbalance patterns, which can vary significantly from year to year due to the increasing impact of renewable generation on system operation.
Parameter X	99.99%	In the context of Subtask I, the SEE SOR proposes to set the parameters X and Y at 99.99%. This threshold is due to the specific operational characteristics of the SEE SOR, where the increasing share of RES gradually increases the magnitude of uncertainty and respectively increases imbalances, and reflects the operational risks.
Parameter Y	99.99%	

For the determination of the probabilistic parameters X% and Y%, an analysis was performed using historical imbalance data of the LFC blocks IPTO, ESO and TERNA from 2024. The individual LFC block imbalances were aggregated per 15-minute time step without considering the cross zonal capacity constraints, i.e., full netting of imbalances, to obtain the corresponding SOR imbalance time series as defined in the ACER's Decision No 12/2023 of 19 July 2023 on the Methodology for the regional sizing of reserve capacity (hereafter the "Methodology"). Based on this aggregated series, an empirical cumulative distribution function (CDF) was constructed separately for positive and negative imbalances. The choice of the **X/Y percentile** affects the coverage of SOR imbalances. The following table 1 indicates the **positive and negative** SOR imbalances, the remaining maximum uncovered imbalances and the number of timestamps these occur during the examined year. The columns "Maximum Uncovered Positive/Negative Imbalances" indicate how many 15-minute periods per year the imbalance may not be fully covered at the corresponding percentile, i.e. a residual imbalance volume will remain. The uncovered imbalances are calculated as the difference between the SOR imbalances at the 100% percentile and the imbalances covered at the selected X/Y percentile.

Table 1: Impact of X/Y Percentile Selection on Coverage of LFC Block Imbalances in the SEE SOR

X/Y (%)	Number of timestamps	SOR Positive Imbalances [GW]	Maximum Uncovered Positive Imbalances [GW]	SOR Negative Imbalances [GW]	Maximum Uncovered Negative Imbalances [GW]
99.9 – 100.00	36 – 0	4.0 – 5.6	1.6 – 0	3.1 – 4.3	1.2 – 0

The operational characteristics of the SEE SOR, where the increasing share of RES introduces greater uncertainty in generation, lead to larger and more volatile imbalance patterns. In addition, the Methodology is forward-looking, targeting the following year (up to approximately 18 months from the start of computations). As such, it relies on historical data, which may not fully represent future conditions due to ongoing energy transition and increased RES generation. Therefore, SEE SOR proposes setting the parameters X% and Y% at **99.99%**, effectively ensuring that the regional minimum reserve capacity dimensioning covers nearly all potential SOR imbalances, accommodates the

anticipated increases in future imbalances, ensures sufficient reserve capacity in the year-ahead time horizon and reduces the risk of imbalances remaining uncovered.

2.5 South-West Europe (SWE) SOR

Parameter	Value	Justification
Time period for historical data	1 year	One year time period is considered sufficient to capture the whole variability in the SWE SOR due to seasonal effects. A longer period of time is not adequate due to the significant increase of installation of renewable generation from year to year.
Parameter X	99,99%	Taking into account both SWE SOR imbalances, and the fact that uncovered imbalances have to be balanced by the adjacent CE SOR, these values imply fewer uncovered imbalances (and also lower magnitude), and therefore fewer situations which CE SOR should balance SWE SOR, which results in a more reliable and secure system.
Parameter Y	99,99%	

The calibration of the X and Y parameters for the SWE SOR was performed using historical imbalance data of the LFC blocks RTE, REN and REE, and the general methodology is based on the comparation between the maximum imbalance in the SOR and the different percentiles for imbalance covering, this difference represents the volume of energy that the adjacent SOR (CE SOR) should cover.

The individual LFC block imbalances were aggregated per 15-minute time step without considering the cross zonal capacity constraints, i.e., full netting of imbalances, to obtain the corresponding SOR imbalance time series as defined in the ACER's Decision No 12/2023 of 19 July 2023 on the Methodology for the regional sizing of reserve capacity (hereafter the “Methodology”).

Based on this aggregated series, an empirical cumulative distribution function (CDF) was constructed separately for positive and negative imbalances. The choice of the **X/Y percentile** affects the coverage of SOR imbalances.

The following table 1 indicates the **positive and negative** SOR imbalances, the remaining maximum uncovered imbalances and the number of timestamps these occur during the examined year.

The columns “Maximum Uncovered Positive/Negative Imbalances” indicate the imbalance may not be fully covered at the corresponding percentile, i.e. a residual imbalance volume will remain. The uncovered imbalances are calculated as the difference between the SOR imbalances at the 100% percentile and the imbalances covered at the selected X/Y percentile.

Table 1:

X/Y (%)	Number of timestamps	SOR Positive imbalances [GW]	Maximum Uncovered Positive Imbalances [GW]	SOR Negative imbalances [GW]	Maximum Uncovered Positive Imbalances [GW]

99-100	35-0	2.6-5.3	2.7-0	3.6-5.8	2.2-0

From the table above, it can be observed that for both positive and negative imbalances, covering only the 99% of the imbalances (which means mimicking the percentile used in the SO GL) implies situations where the adjacent SOR should have to accommodate positive deviations up to 2676 MW (difference between 5307 and 2631 MW), and negative deviations up to 3386 MW (5813-2427 MW). Additionally, these deviations occur in a range of hours with high solar PV generation, and therefore the imbalance from CE SOR may not be guaranteed. This situation is inadmissible as it implies a risk in the system operation for both SWE and CE SORs. For that reason, other different percentiles have been assessed, taking into account operational characteristics of the SOR, the evolution of renewable capacity and the trade-off between the cost of reserves and the security operation. Therefore, SWE SOR proposes setting X% and Y% at 99,99% percentile, with these figures, it is statistically ensured that there will be at the most:

- 4 times per year positive deviations not higher than 200 MW.
- 4 times per year negative deviations not higher than 700 MW.

Ensuring the regional security in the SWE SOR and the adjacent SOR which should cover the imbalances not covered in the SWE SOR.

3 Explanation of changes to article 4(4)

Article 4 of the methodology has been amended by introducing geographical delineation, in line with the considerations expressed in the ACER shadow opinion, in order to better accommodate the different LFC configurations across Europe. To this end, a new paragraph to article 4 (paragraph 4) has been added. This amendment improves the coherence and applicability of the methodology without modifying the calculation principles, the responsibilities of TSOs, or introducing prescriptive assumptions on transmission constraints.

4 Explanation of changes to article 6(1)

The proposed removal of the reference to Article 59 of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (EB Regulation) is not intended to reduce or limit any reporting obligations of the RCCs. On the contrary, the objective is to streamline the reporting framework by ensuring that reporting on this task is consolidated within the existing reporting structure established pursuant to Article 46 of the Electricity Regulation.

Under the current wording, RCC reports on the yearly determination of minimum reserve capacity would need to be prepared in a way that aligns with ENTSO-E's reporting cycle under Article 59 of the EB Regulation and be annexed to ENTSO-E's report. This creates an additional procedural layer and introduces a dependency on ENTSO-E's timeline. By removing this reference, the reporting obligation remains fully intact but is placed exclusively within the RCC reporting framework under Article 46 of the Electricity Regulation.

This approach consolidates RCC reporting on operational tasks into a single report, thereby improving clarity, efficiency, and coherence of the regulatory framework. It avoids duplication, reduces

administrative complexity, and ensures that responsibilities remain clearly allocated, while fully preserving transparency and regulatory oversight.

5 Explanation of changes to article 7

The implementation of the task *'regional sizing of reserve capacity'* as defined in this methodology is dependent on the existence of sharing agreements between TSOs within each System Operation Region, pursuant to Article 157(2)(j) and (k) of the SOGL. These agreements form the operational foundation of the tasks, since the assessment can only be performed once TSOs have established sharing arrangements that define the scope and volume of reserves subject to sharing.

However, the establishment of such sharing agreements is voluntary under the SO Regulation and may progress at different levels of implementation across SORs. Some regions may already have experience with reserve sharing, while others may still be in the preparatory phase of developing the necessary legal, technical, and operational frameworks. As a result, not all SORs will reach the same level of readiness by a common fixed deadline.

Given this variability and voluntary nature, imposing a single mandatory implementation date would create inconsistencies in regions where sharing agreements are not yet in place or intended to be established for the time being. To address this, a rolling implementation timeline is proposed. The revised Article 7(1) correlates the start of the RCC's implementation to the notification by TSOs of their intention to establish and apply sharing agreements. This approach ensures that RCCs initiate the process only when the preconditions for its effective application are fulfilled.

This amendment therefore provides a pragmatic and proportionate solution, allowing each SOR to progress according to its own readiness, while maintaining the integrity and harmonised application of the methodology across regions. It reflects the reality of differing development stages among SORs and ensures that implementation proceeds in line with actual operational capabilities rather than arbitrary deadlines.

To ensure transparency about the start the rolling implementation timeline, a new paragraph (paragraph 3) has been added to determine the obligation of TSOs to notify the relevant RCCs of newly established reserve sharing agreements no later than one week following their establishment. Finally, a new paragraph (paragraph 6) has been added to specify that all RCCs shall publish on their websites and keep up to date an overview of the sharing agreements in SORs which they operate.

6 Removal of RR references from document (art 160 SO Regulation) and introduction of article 7(2)

References to replacement reserves (RR), including those related to Article 160 of the SO Regulation, have been removed from the methodology in accordance with the ACER shadow opinion and due to the fact that the TERRE platform was phased out at the end of 2025 and the use of replacement reserves will no longer be relevant for the future sizing of reserves at SOR level.

However, this deletion necessitates the inclusion of an additional, transitional provision under article 7(2) of the proposed amendment, in order to balance a timely first performance of the RCC task with granting TSOs a proportionate amount of time to adjust their internal processes associated with the

provisions of the required data to RCCs. TSOs presently incorporate the RR component into their reserve dimensioning process. Considering that the timeframe for the historical records is one year, excluding RR from the subtask calculations therefore can result in larger deviations between the summed-up reserve requirement and the minimum requirement at SOR level, and a time period for TSOs to adjust their processes should be account for to minimise the impact of this in the long-term. The additional proposed article is only intended to cover cases in which the TSOs used RR products in the beginning of 2026.

7 Sharing agreements overview

In line with the request from ACER and the Regulatory Authorities, the Explanatory Document has been improved by including an overview of the sharing agreements currently in place at SOR level, indicating for each contract the respective date of establishment. This aims to support transparency in the application of rolling implementation deadlines. The overview is depicted in Annex 1.

8 Responses to public consultation

The table below provides an overview of the feedback received during the public consultation and the responses of ENTSO-E.

	Stakeholder's views	**Response**
Enel	"Enel appreciates ENTSO-E's efforts to involve market participants in the consultation on the revised RCC reserve capacity sizing methodology. However, in its current form, the consultation does not provide sufficient clarity for stakeholders to properly assess whether the proposed changes are likely to generate net benefits or potential drawbacks. In particular, the methodology and its amendments are presented without concrete quantitative examples, historical simulations, or illustrative scenarios showing the expected effects on reserve volumes and their allocation. When combined with the limited transparency that currently exists in some countries regarding how TSOs calculate RCC reserve capacity and how this feeds into national reserve requirements, this lack of evidence makes it difficult for market participants to form an informed view on the effective impact of the proposed revisions. To enable meaningful and informed feedback, Enel respectfully suggests the publication of an Explanatory Note (or a public annex) including statistical charts of imbalance distributions and illustrative reliability-versus-volume curves showing the effect of the selected thresholds (e.g. X and Y). In the absence of such supporting data, the selection of these parameters risks appearing arbitrary. Therefore, the introduction of a periodic review clause would be appropriate, whereby within two years of first application TSOs reassess the values of X and Y based on observed evidence and,	"ENTSO-E welcomes the feedback provided by ENEL and acknowledges that further details could be necessary to assess the implications of this methodology amendment. An updated Explanatory note is provided as part of the final amendment proposal which includes a detailed analysis and reasoning behind the selection of the X and Y parameters with the intent to strengthen the robustness, credibility, and acceptance of the proposed methodology."

	where necessary, propose amendments to the methodology. In addition, the methodology should explicitly clarify how any incremental reserve volume is allocated when regional requirements exceed the sum of locally procured reserves. Operational timelines should also be aligned with day-ahead and reserve markets. In particular, it should be clearly specified whether certain computations are expected to take place at D-2 in order to respect a six-hour notice period, or whether reserve market gate closures should be adjusted accordingly. This would ensure that TSOs have timely visibility of network capability and balancing offers, while avoiding misalignments and process conflicts. Finally, while the adoption of a probabilistic approach is appropriate, the methodology should explicitly reference coordinated contingency procedures for events that fall outside the covered scenarios. More generally, greater transparency is needed regarding all implications arising from this consultation and the outcomes that the methodology may generate once implemented. Such transparency should be ensured both at European level and at national level by individual TSOs, including disclosure of key assumptions, evaluation criteria, and expected impacts. Providing this information would strengthen the robustness, credibility, and acceptance of the proposed methodology"	
EDF	"ENTSOE has recently launched a consultation on the methodology for regional sizing of reserve capacity. However, the explanatory document associatedwith this consultation does not provide enough detail to fully understand the proposition. Moreover, EDF understands that some simulations have been done to set the “time period for historical data” and the “parameters X and Y” but these are not provided. Under these conditions, it is impossible to comment on the relevance of the proposals made by ENTSOE. EDF considers ENTSOE must provide more details, and in particular the results of simulations made. In addition, EDF would like clarification on the following points, which are essential for assessing the methodology: 1. Application of Criteria for TSOs Covering Multiple Zones How should a TSO operating across two zones apply the criteria? Should it respect the maximum of the two zones, or the maximum absolute value for each zone at every time step? 2. Justification of Different Criteria Across Regions	"ENTSO-E welcomes the feedback provided by EDF and acknowledges that additional clarifications can support stakeholders in assessing the implications of the proposed amendment to the regional sizing methodology. As part of the final amendment package, ENTSO-E has prepared an updated Explanatory Note that expands the analysis and provides further justification on the calibration of the parameters used in the methodology. The revised documentation clarifies that each System Operation Region (SOR) maintains full autonomy in calibrating the X and Y

	How does ENTSO-E justify having different X and Y criteria for each regional block? 3. Impact Analysis and Prudence To properly assess the proposals, it would be relevant to measure the impact and variation in reserve volumes between 99% and 100% confidence levels for each zone, as well as the simultaneity of deviations between zones (to evaluate the potential benefit of netting and reducing conservatism). The dispersion of hazards is a fundamental parameter for a relevant reserve sizing. 4. Treatment of Interconnection Availability How are interconnection availabilities considered in the calculations? Are interconnectors assumed to be fully available without saturation, in both directions, at all times? Is any prudence applied? These questions apply to exchanges capacity availability and also to reserve margin availability in neighbouring countries. 5. Granularity of Reserve Construction No details are provided on the time granularity used for reserve sizing (e.g., 2-hour average, 4-hour average, weekly, or longer). This parameter has a significant impact on results, far beyond the influence of X and Y values. 6. Weighting of Reserve Types What is the respective weight of each reserve product (aFRR and mFRR) in the sizing methodology?"	parameters according to its system characteristics and geographical context. It also explains that the approach takes into account the varying sizes of the different SORs, including the possibility of relying on mutual assistance to ensure adequate regional flexibility, as envisaged under the ACER-approved framework."

Annex 1 – List of existing sharing agreements

Overview of the currently applicable sharing agreements						
Type of existing contract	**SOR**	**Contracting TSO(s)**	**Involved LFC Blocks**	**Type of contracted reserve**	**Brief description of the sharing agreement**	**Commencement/Termination date, if relevant**
No active sharing agreements	SEE					
No active sharing agreements	SWE					
No active sharing agreements	Baltic					
No active sharing agreements between LFC Blocks within the Nordic synchronous area	Nordic	N/A	N/A	N/A	N/A	Nordic System Operation Agreement (SOA)
Sharing agreement pursuant to SOGL artt.177	Nordic	Energinet	DK1 - Nordic LFC block	mFRR	Sharing agreement of mFRR between DK1 and DK2	Not applicable for Sizing ST2 as t is a sharing agreement within the same TSO (Energinet)

Sharing agreement pursuant to SOGL art. 125, 157 and 168	CE	Elia and Tennet	ELIA and TTB	FRR	The contract between Elia and Tennet foresees the possibility for the TSOs of the 2 countries to request the delivery of balancing energy in both directions. Nevertheless, only Elia considers this possibility for reserve sharing purposes, i.e. for reducing the volume of its balancing reserves pursuant to articles 157(2) (j) and (k) of SOGL.	Entered into force on 01/01/2018. Automatically renewed every year.
Sharing agreement pursuant to SOGL art. 125, 157 and 168	CE	Elia and RTE	BE and FR	FRR	The MEAS contract between Elia and RTE foresees the possibility for the TSOs of the 2 countries to request the delivery of balancing energy in both directions. Nevertheless, only Elia considers this possibility for reserve sharing purposes, i.e. for reducing the volume of its balancing reserves pursuant to articles 157(2) (j) and (k) of SOGL.	Entered into force on 01/10/2025. Open-ended contract.
Sharing agreement pursuant to SOGL art. 125, 157 and 168	CE	Elia and Amprion & 50Hertz and Tennet and TransnetBW	ELIA and TNG+TTG+AMP+50HZT+DKW+CREOS	mFRR	The contract between Elia, Amprion, 50Hertz, Tennet and TransnetBW foresees the possibility for the TSOs of the 2 countries to request the delivery of balancing energy in both directions. Nevertheless, only Elia considers this possibility for reserve sharing purposes, i.e. for reducing the volume of its balancing reserves pursuant to articles 157(2) (j) and (k) of SOGL.	Entered into force on 30/11/2020. Open-ended contract.