

EXPLANATORY DOCUMENT

on the Proposal of Finnish, Estonian and Latvian TSOs of Baltic CCR TSOs' Common Methodology for Splitting Long-Term Cross-Zonal Capacity in Accordance with Article 16 of Commission Regulation (EU) 2016/1719 of 26 September 2016 Establishing a Guideline on Forward Capacity Allocation

1. Introduction and executive summary

This document serves as the supporting document for the Proposal Finnish, Estonian and Latvian TSOs of Baltic CCR TSOs' Common Methodology for Splitting Long-Term Cross-Zonal Capacity in Accordance with Article 16 of Commission Regulation (EU) 2016/1719 of 26 September 2016 Establishing a Guideline on Forward Capacity Allocation (hereafter referred to as the "LTCS"). It outlines the LTCS for the long-term time frame for the Baltic Capacity Calculation Region (CCR) and aims to provide an explanation, background, and motivation for the proposed legal text of the methodology.

AST, Elering, and Fingrid are the TSOs within the Baltic CCR with the obligation to issue long-term transmission rights, which is why the LTCS will only be submitted to the relevant Latvian, Estonian, and Finnish National Regulatory Authorities (NRAs). The other TSOs within the Baltic CCR have exemptions from the LTCS in accordance with Article 30(7) of Commission Regulation (EU) 2016/1719 establishing guidelines on forward capacity allocation (FCA Regulation).

The Baltic CCR LTCS was approved by Estonian and Latvian NRAs in July 2019.¹ However, the methodology was never implemented as the Baltic CCR Long Term Capacity Calculation Methodology (Long-term CCM), in line with FCA Regulation Article 10, was never approved. ACER Decision No. 27/2020, issued by ACER on November 17, 2020, rejected the Baltic CCR TSOs' proposal for the long-term capacity calculation methodology. The Baltic Long-term CCM compliant with EU law can only be implemented after desynchronization, which is expected to occur in 2025. Following this, the preconditions for the implementation of LTCS are also expected to be fulfilled.

When Estonian- Finnish long-term transmission rights were implemented in 2021/2022, ACER provided following opinion No 03/2022 (5) *The requirement of Article 16(2)(b) of Regulation (EU) 2016/1719 for a methodology that is coherent with the capacity calculation methodology implies that the LTCS according to Article 16 of Regulation (EU) 2016/1719 can only be implemented when the long-term capacity calculation methodology under Article 10 of Regulation (EU) 2016/1719 has been implemented for the respective region. Until the splitting methodology according to Article 16 of Regulation (EU) 2016/1719 has been implemented, cross-zonal capacity may be split according to a methodology bilaterally agreed by the relevant TSOs, subject to regulatory oversight.*

¹ <https://elering.ee/sites/default/files/2022-09/FI-EE%20bilateral%20methodology%20for%20FTR%20capacity%20split.pdf>

1.1 Proposal for the Splitting rule.

Elering and Fingrid prepared the Bilateral methodology for determining and splitting the long-term cross-zonal capacity for the purpose of allocating long-term transmission rights on the Finnish–Estonian bidding zone border², which was supported by Estonian and Finnish NRAs. With the implementation of the LT CCM in the CCR Baltic, the conditions for the Bilateral methodology will cease to exist, and the respective provisions will need to be included in the amended LTCS. While amending the LTCS, the Finnish, Estonian and Latvian TSOs have also decided to propose a revision of the LTCS according to which the volume of the offered long-term transmission rights (LTTRs) will be reconsidered based on the analysis of the historical data.

The LTCS needs to fulfil the requirements set in Article 16(2) of the FCA Regulation according to which the LTCS shall

- meet the hedging needs of the market,
- be coherent with the capacity calculation methodology, and
- it shall not lead to restrictions in competition, in particular for access to the long-term transmission rights.

The TSOs propose a two-aspect approach for calculating the amount of LTTRs for the timeframes offered. The first aspect is about managing the risk of in-efficiency from the underselling of LTTRs. The second aspect divides the economically efficient volumes between the timeframes defined in the regional design of LTTRs, developed under FCA Article 31.

2. List of products timeframes

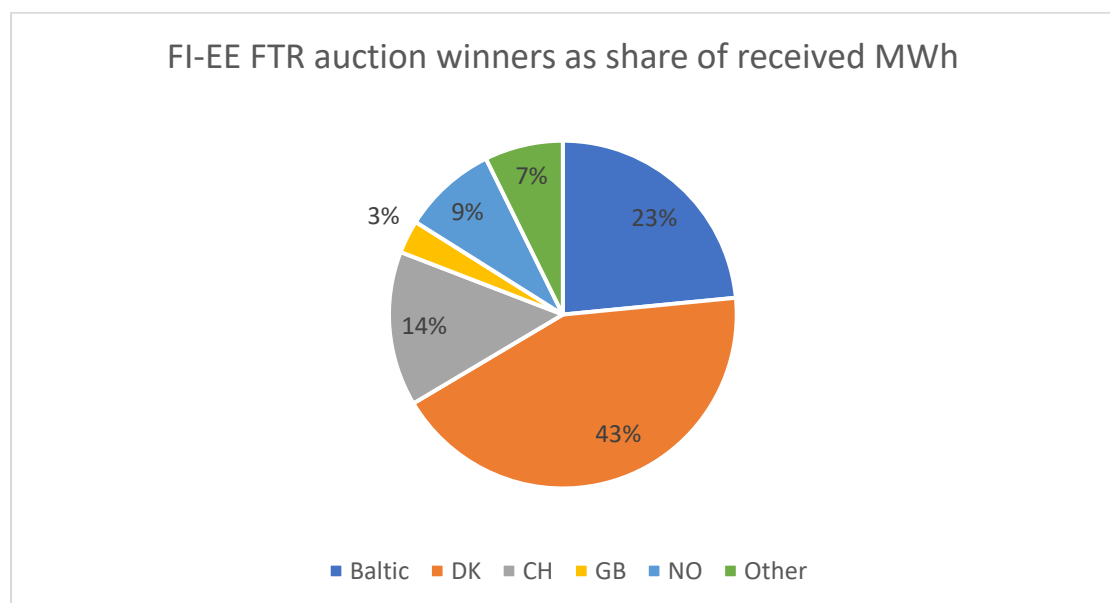
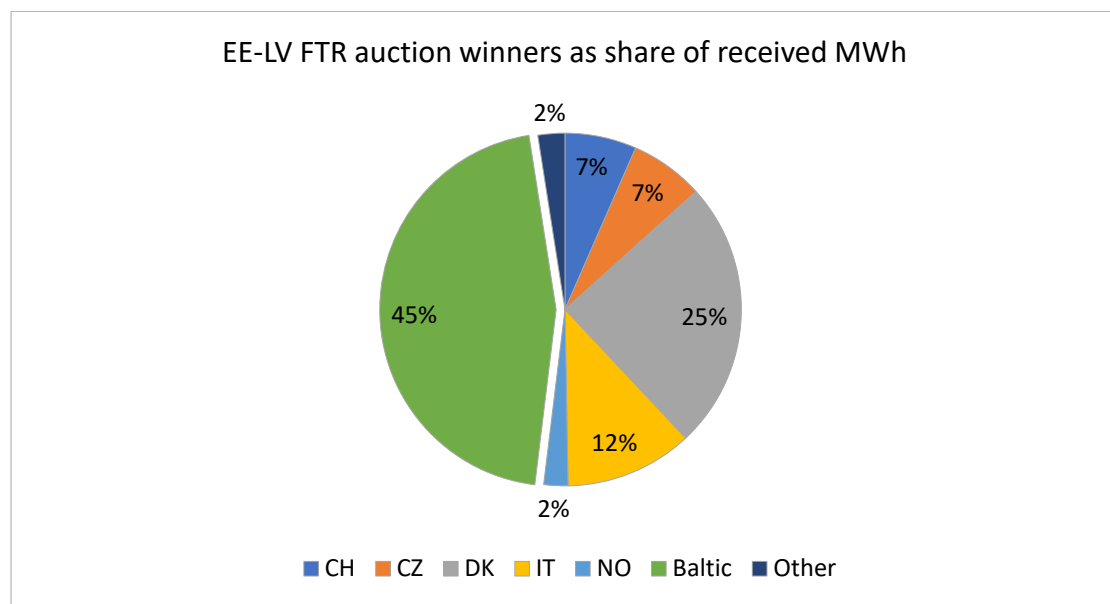
Article 16(2) states that the LTCS proposal shall be coherent with the long-term capacity calculation methodology. This coherence is ensured by Articles 3 and 4, which provide that the long-term capacities are calculated by using the Long-term CCM, and that these capacities are used as a point of departure for the LTCS. These articles also ensure coherence with the methodology developed under Article 31(2) of the FCA Regulation, which provides that LTTRs shall be offered at least for monthly and yearly timeframes.

3. Taking underselling into account

Underselling is defined as a situation where the marginal price of the LTTR determined in the auction of LTTRs, for a given timeframe, is lower than the average day-ahead price spread between two bidding zones used as the reference price for settlement of the LTTRs. Underselling in short means a situation where the buyer of the LTTR systematically obtains a higher cash flow from the variable settlement than what was paid by the buyer of the transmission right. In case of well-functioning competition, one should (to some degree) expect the auction price to be statistically distributed around the price spread. If underselling was present in a product, then with perfect competition it would be expected that new market participants enter the auctions and drive up the price until equilibrium is reached where no underselling is present. However, the Baltic power market and market for LTTRs cannot be perceived as a market with perfect competition. The market is characterized by illiquidity, as too few market participants have a natural hedging interest in the Baltic LTTRs to create perfect competition.

The impact of underselling materializes as a decrease of TSOs' congestion income as TSOs effectively switch their congestion income from day-ahead market to the LTR auction income. In case the auction income is systematically lower than the realized day-ahead price difference, the market participants obtaining the LTR capacity are systematically benefitting at the expense of grid users. This is because less money will be available for the primary uses of congestion income including guaranteeing the availability of allocated capacities and maintaining or increasing the cross-zonal capacities, or for lowering grid tariffs, which all bring benefits to grid users.

After analysis the results of EE-LV and FI-EE FTR auctions, it becomes evident that auction winners were mostly from areas other than the Baltic or Finnish markets. This, together with the underselling, might imply that the hedging needs of market participants in the Finnish and Baltic markets could potentially be satisfied with lower volumes of LTRs than what is currently made available.



For EE-LV and FI-EE FTRs, it was noted that the auction prices were lower than the day-ahead market price difference, resulting in a negative financial impact on TSOs' congestion income. The table below presents the net income for TSOs from LTTRs (calculated from the total auction income, reduced by the clearing and settlement of the FTRs. No congestion income from other timeframes is taken into account). As a result, a portion of the overall congestion income collected by TSOs from all timeframes has been used for other reasons than intended, such as reducing costs for end users in areas with price differences. The negative ex-post risk premium of LTTR for the EE-LV border indicates on underselling, meaning that auctioned FTR volumes are too big for the actual interest of market players. The situation appears similar at the FI-EE border, although data is only available for 2023 and 2024 (and where the 2024 data cannot be considered statistically reliable due to the Estlink 2 outage).

Year	Net income for TSOs from LTTRs on EE-LV border	Net income for TSOs from LTTRs on FI-EE border
2014	- 8 477 005.07	N/A
2015	- 11 448 803.40	N/A
2016	3 351 278.50	N/A
2017	1 983 354.77	N/A
2018	- 3 487 773.71	N/A
2019	9 303 055.88	N/A
2020	- 808 713.40	N/A
2021	- 8 015 131.01	N/A
2022	- 113 395 245.15	N/A
2023	28 120 882.00	-37 612 815.53

Therefore, the proposal from TSOs is to calculate the total volume of auctioned capacity considering the historical volume of the offered FTRs. The basic approach to manage the risk of underselling is done by calculating the breakeven amount of LTTRs that can be allocated, securing that the expected day-ahead price spread is equal to the expected auction price. This means, that if the auction price is below the price spread, the amount of LTTRs will be reduced compared to previous auctions. On the other hand, if the auction price is above the price spread, the amount can be increased compared to previous auctions, up to the maximum capacity allowed, considering other applicable limits. The exact approach is explained in the next section.

4. Methodology for splitting long-term cross-zonal capacity

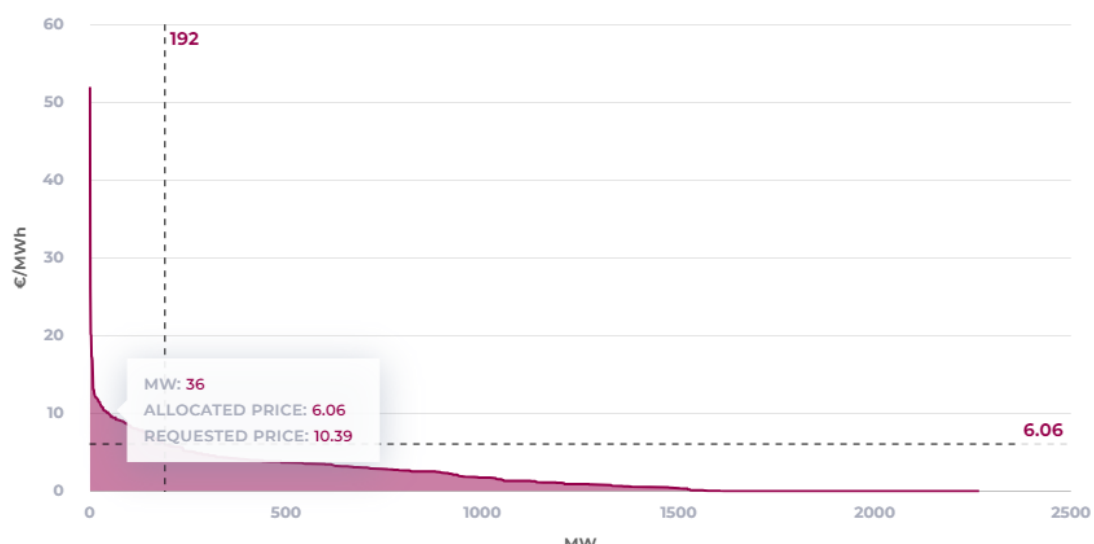
In the current methodology, splitting volumes are limited by the long-term cross-zonal capacity (LTCZC) for the respective timeframe and border, and are calculated according to the Long-term CCM of Baltic CCR in line with FCA Regulation Article 10. The most recent calculation results are used for splitting.

For the EE-LV border, in addition to the limiting of the long-term cross-zonal capacity, there is an additional constraint related to the use of cross-zonal capacity for balancing reserve exchange and sharing, which will be implemented with the launch of the Baltic balancing capacity market at the start of 2025. Only 50% of LTCZC can be allocated as LTTR for EE-LV border due to the potential reservation of cross-zonal capacity for balancing reserves sharing

and exchange, as outlined in the Methodology for the market-based allocation process of cross-zonal capacity for the exchange of balancing capacity for the Baltic CCR in accordance with Article 41(1) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.

Upper limits for specific timeframe auctions are currently used to ensure that the available long-term cross-zonal capacity is split between multiple auction timeframes.

To account for underselling, TSOs will use the public data from the auctions on the Single Allocation Platform (SAP) as input for calculating volumes for the LTTRs. Joint Allocation Office (JAO) is appointed as the SAP, according to the methodology developed under Article 48 of the FCA. Historical auction data, including all submitted bids and related prices, is available on JAO's website. The picture below provides a graphical example of the data available for the monthly auction at the EE-LV border for August 2023, showing that the auction cleared at a price of 6.06 EUR/MWh.



From the graph it can be investigated which volume would have prevented underselling in any given auction. The day-ahead market price spread for August 2023 was 10.54 EUR/MWh, and underselling occurred during this month. The breakeven volume for that month was 36 MW – indicating the volume that should have been auctioned to avoid underselling. An analysis of auctions from 2019 to 2023 shows breakeven volume (calculated in 5 MW steps) of 130 MW for yearly auction, 50 MW for monthly auction, and 20 MW for quarterly auctions.

The proposed methodology for the LTCS considers multiple historical data points to assess the breakeven volume of LTTRs, considering underselling by using data from specific auction types over the past 36 months. This ensures a sufficiently long period to evaluate long term trend, to minimize the influence of outdated events that may no longer be relevant for the auction timeframe in calculation. The goal is to make the volumes more stable and less sensitive to day-ahead market price spikes, caused by specific situation in a single month. In the table below, preliminary calculations of the breakeven volume for the 2025 timeframe were conducted using data from the period November 2021 to October 2024 (incomplete).

Auction timeframe	Preliminary breakeven volume calculation
Year 2025	115
Q1 2025	21
Q2 2025	21
Q3 2025	21
Q4 2025	21
January 2025	51
February 2025	51
March 2025	51
April 2025	51
May 2025	51
June 2025	51
July 2025	51
August 2025	51
September 2025	51
October 2025	51
November 2025	51
December 2025	51

For each of auction type in the next calendar year, unified breakeven volume will be calculated as the volume at which the historical auction price equals the historical day-ahead market price spread. Below is a description of the calculation formula for yearly auctions.

The breakeven volume for the yearly timeframe Y is calculated as problem from involving two equations. Y value is rounded to closest integer value:

$$\left\{ \begin{array}{l} \sum_{m=1}^{36} (h_m * C_{rp.m} * Y - h_m * C_{apY.m} * Y) = 0 \\ C_{apY.m} = f(Y, m) \end{array} \right\}$$

Where,

Y – yearly LTTR breakeven volume in MW

m – auction month in reference period

h_m – hours in a set month

$C_{rp.m}$ – is the average day-ahead price difference in a set month in EUR/MW in relevant direction and border

$C_{apY.m}$ – is the auction price for a given month as a function of auction volume Y and is determined based on the historical yearly auction curves from the past 36 months. For each calendar year, the auction price remains the same each month, measured in EUR/MW.

Calculations are performed before setting the yearly auction volume. Since the yearly auction typically takes place in November, the breakeven volume for the 2025 auction, for example, would consider the period from November 2021 to October 2024.

The formula consists of two equations with two variables – auction price and auction volume. The auction price is a function of the auction volume and corresponds to the auction curve derived from JAO results for specific period (month). For the yearly auction, the same curve is used for each period (month) within the calendar year, as the calculation is divided into months to provide precise weights according to the actual hours in each period.

The first formula describes the breakeven logic, stating that that average day-ahead price difference compensated to market participants is equal to the auction income. The sum in the formula indicates that the equations for each period can yield either income or expense, but the overall result for the whole 36-month period should equal 0, this is considered as rule to find the breakeven volume Y . In practice, this is done by adjusting the auction Y volume in increments, determining the auction price (expressed as second equation) for each period $C_{apY.m}$ (note: using the same value for each month in a yearly auction) from auction curves as shown in auction curve graph above where adjusting requested volume limit yields new modelled auction price and obtaining a fixed result of income or expense in first equation until breakeven volume is found.

At the same time with the yearly auction calculations, breakeven volume calculations for monthly and quarterly auction for the next calendar year are conducted as well. The same calculation principle is used to monthly and quarterly auctions, with the difference that the relevant (monthly or quarterly) auction curves from JAO results are used. For example, for calculating the monthly auction volume, 36 monthly auction curves are used in the formula.

5. Availability and usability of historical price data

In some cases, the historical auction and day-ahead price data may not be considered valid to determine the breakeven volume. In such case, the breakeven formula cannot be applied for FTR capacity allocation. For example, in 2024, the Estlink 2 connection tripped in January, resulting in a 7 month outage. This outage reduced the physical transmission capacity between FI-EE bidding zones to only 358 MW, instead of the normal capacity of 1 016 MW. This significant decrease led to the yearly FTR being undersold, since the market fundamentals during the auctioning for the yearly product were not fulfilled for most of the year. In addition, the TSOs were able to offer only 8 MW to the monthly auctions during the outage, which means that none of the auctions held during this period can be considered valid for calculating the breakeven volume, as the auctioned capacity was significantly lower than normally.

If any historical data is considered unavailable for the relevant bidding zone border, the months without this data shall be excluded from the breakeven volume calculations. Historical data is deemed unavailable if:

- the historical data for the relevant period shows that there has been FTRs curtailment with reason of Force Majeure;
- the historical data for the relevant period indicates day-ahead net transfer capacity (NTC) decrease due to Force Majeure.

For the FI-EE border, the breakeven value can be calculated after 36 months of data is available. FTR auctions on the FI-EE border began in 2023, meaning the breakeven value will be calculated at the earliest for the 2027 FTRs. Data for January and February 2024 is unavailable due to FTR curtailment resulting from Force Majeure, and data from March to September 2024 is also unavailable due to a decrease in day-ahead NTC, which significantly affects day-ahead market prices.

6. Timeline

The implementation of the LTCS should align with the implementation of the long-term capacity calculation methodology. This is because the LTCS is based on the long-term capacity calculation methodology, and it would not be logical to implement the LTCS before this methodology is in place. Additionally, regulatory coordination is necessary to ensure compliance and alignment with established guidelines. For year 2025 auctions, the first breakeven volume calculation will be conducted after the implementation, using the latest data at that time, not in the regular calculation time before yearly auctions.