

Baltic balancing roadmap

Introduction

Since 1st of January 2018, Baltic transmission system operators - Elering AS, AS "Augstsprieguma tīkls" and Litgrid AB (Baltic TSOs) operate a common model for balancing of power systems of Estonia, Latvia and Lithuania. To accommodate this, the common Baltic coordinated balancing area was introduced and the common Baltic balancing market for exchange of balancing energy in form of frequency restoration reserves with manual activation (mFRR) was established. In coming years significant changes in Baltic balancing model are foreseen in order for it to be compliant with the requirements of European regulations and ensure Baltic TSOs compliancy with Central European Synchronous Area (CESA) rules and agreements after synchronization with the networks of CESA.

mFRR balancing energy market

The existing Baltic balancing model and balancing energy market will be changed at the point of time when Baltic TSOs will join the common European platform for exchange of mFRR energy (Manually Activated Reserve Initiative - MARI), which is foreseen in period from mid of 2023 until second half of 2024. The main change to the mFRR balancing market when joining MARI platform, will be introduction of a 15 minute balancing market time unit and respective changes in mFRR energy products as well as processes. Joining MARI platform will ensure that the Baltic balancing market will be an integral part of the European balancing market, allowing local balance service providers to participate in the European mFRR market. Resulting raise in market size will increase the power system security through more liquidity in energy reserves market utilizing available cross-zonal capacities with neighboring areas.

aFRR balancing energy market

In order to accomplish the successful synchronization of Baltics with CESA and ensure power system load and frequency control within 15 minute balance control period, frequency restoration reserve product with automatic activation (aFRR) along with corresponding processes will be introduced by Baltic TSOs. Implementation of aFRR will be aligned with the requirements of common European platform for exchange of aFRR energy (Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation - PICASSO). The same as for mFRR, local aFRR providers will be able to participate in the European aFRR energy market. Introduction of aFRR in Baltics is planned to be concluded by the end of 2024.

Imbalance settlement period

In accordance with the European regulations, imbalance settlement period

(ISP) shall be shortened to 15 minutes from existing 60 minutes in Baltics. Introduction of aFRR and change to 15 minute balance control period in Baltics are the key elements to ensure that 15 minute ISP can be properly implemented in compliance and spirit of European guideline on electricity balancing, and as described in implementation concept prepared by Baltic TSOs. Implementation of 15 minute ISP in Baltics is planned in 2024 and derogation from respective European requirements until then is granted by regulatory authorities in Baltics.

In order to provide possibility for the market participants to reduce their potential imbalances by allowing them to trade as close as possible to the operation time, Baltic TSOs in line with other European TSOs, will actively support 15 minute market time unit(MTU) introduction in day ahead and intraday energy markets, which is also necessary to ensure 15 minute ISP implementation in Baltic balancing model. Baltic countries are currently considering rollout of 15 minute MTU in day ahead market in the first wave of European single day ahead coupling project along the neighboring Nordic and Polish markets - in the beginning of 2024. 15 minute product in intraday market in Baltic countries is planned to be introduced alongside existing 60 minute product simultaneously with the introduction in Nordic countries by the mid of 2023.

Baltic Load-Frequency Control block

Synchronization of Baltic power systems synchronously with the networks of CESA implies complex and fundamental changes in the operations of the power systems and requires completely new model of balancing in Baltics. For this purpose, Baltic TSOs plan to create Baltic load and frequency control (LFC) block consisting of three LFC areas - Estonia, Latvia and Lithuania. Main responsibility for balancing will be on the LFC area level. Along with aFRR and mFRR products, the frequency containment reserve (FCR) products will be introduced. Transmission system operators will use frequency containment and frequency restoration processes for ensuring the applicable load frequency control parameters. Baltic TSOs have commonly prepared LFC block concept document in order to highlight the key concepts, principles and actions as well as to describe the technical requirements and procedures for the future of Baltic load frequency control and market setup to support it. Concept document describes LFC block structure, principles for reserve providers qualification, approach on capacity dimensioning and distribution, capacity sharing and exchange principles, capacity and energy standard products, capacity procurement process and activation process. Baltic LFC block is planned to be established by the end of 2024.

Balancing capacity markets

To ensure availability of necessary reserves for operation of Baltic LFC block, Baltic TSOs plan to procure all types of reserves (FCR, aFRR, mFRR) in amount of dimensioned volumes determined in Baltic LFC block as capacity products.

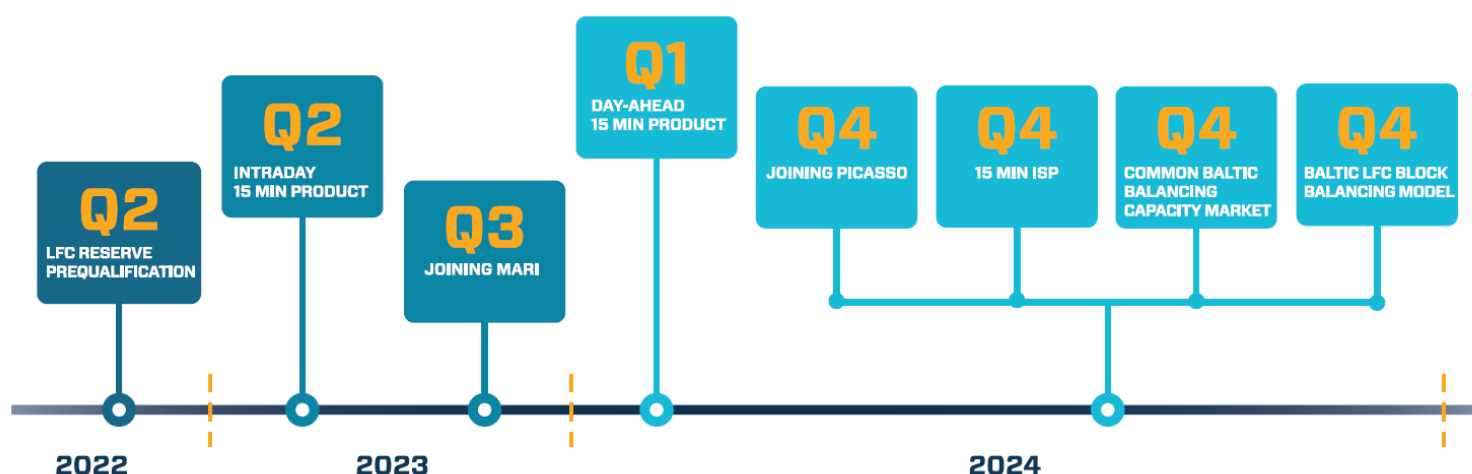
Baltic TSOs will strive to create a common Baltic balancing capacity market by introducing market and cross border allocation mechanisms to give the possibility for balance service providers in Baltics to compete in liquid market, ensuring most efficient procurement of balancing capacities within Baltics. Baltic TSOs will organize prequalification process for balance service providers for each type of reserves starting from 2022. Procurements of each type of reserves are foreseen as daily auctions and are planned to be introduced in 2024.

Implementation timeline

Baltic TSOs are actively working on planning and introducing of necessary changes to the Baltic balancing model. Stakeholders are involved in development of all relevant documents and methodologies through the public consultations and consecutive discussions. More detailed information on planned changes can be found in:

- *Baltic balancing market rules (for operation with MARI);*
- *Baltic 15 minute imbalance settlement period implementation Concept Document Baltic;*
- *Baltic Load-Frequency Control block concept document.*

Summary of the implementation timeline for different projects:



The above milestones and deadlines indicate the best estimate of dates and are elaborated in the Baltic balancing roadmap text above.