# Public consultation document for Baltic imbalance settlement harmonisation


June 27th, 2016

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2016

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# 1. Introduction

The Baltic electricity transmission system operators (TSOs) have agreed to create a common Baltic electricity balancing market by 2018, which marks a significant step towards the integration of the common Baltic-Nordic balancing market.

Electricity market participants acting as Balance Responsible Parties (BRP) would be subject to equal treatment in terms of their obligations, rights and responsibilities, regardless of in which power system they currently operate in. The harmonisation of imbalance management rules are:

- Prerequisites for the creation of a common Baltic mFRR balancing market, and for the implementation of the Baltic Coordinated Balancing Area (CoBA);
- In line with the aims and objectives of the Guideline on Electricity Balancing (hereinafter - GL EB[1]).

During 08.2015-04.2016, the consultancy service provider Pöyry Management Consulting (Pöyry) carried out an in-depth analysis on a harmonised imbalance settlement model most suitable for the Baltic balance system. The study, titled "Baltic's balance management model study and harmonisation plan towards EU energy markets model" (hereinafter - Study), was prepared in close collaboration with all three Baltic TSOs (Elering, Augstsprieguma tīkls and Litgrid). This Study report can be found on all Baltic TSOs webpages (Elering, AST, Litgrid) and it is the main supporting document for this public consultancy. In addition, during the latter stages of the Study, the TSOs invited market participants to participate in a preliminary public consultation, the feedback of which can be found annexed to the Study document.

The objective of this document is to provide the Baltic BRPs with a preliminary view on the Baltic harmonised imbalance settlement model, and give the BRPs the opportunity to express their comments on the design aspects proposed by the TSOs.

The final documents and rules, after the review and receipt of the feedback, are planned to be published in the 3rd quarter of 2017 by which time each TSO has developed for its control area a proposal for the standard terms and conditions for BRPs and received the approval from their national regulator for said terms and conditions.

# 2. General settlement principles

The proposed Baltic common imbalance settlement principles are in line with the following GL EB draft requirements:

The settlement principles:

a) establish adequate economic signals, which reflect the imbalance situation;

b) incentivise balance responsible parties to strive to be balanced or help the system to restore its balance;

c) facilitate harmonisation of imbalance settlement mechanisms;

d) avoid distortions of incentives or counterproductive incentives to balance responsible parties, balancing service providers and TSOs;

e) support competition among market participants;

f) ensure the financial neutrality of all TSOs under its competence with regard to the financial outcome as a result of the settlement for balancing costs;

[1] Note: as of date of this document the GL EB is still in pre-Comitology process

g) the settlement mechanism shall ensure that the charges for BRPs reflect the full costs of balancing. For that purpose, each TSO may develop a proposal for a settlement mechanism separate from the imbalance settlement, to settle the procurement costs of balancing capacity, procurement costs of reserve capacity, administrative costs and other costs related to balancing with BRPs;

h) TSOs shall not be allowed to use the financial outcome as a result of the settlement to relieve congestion costs;

i) incentivise TSOs to fulfil their obligations for system balancing and ensure that imbalances are settled at a price that reflects the real-time value of energy.

Imbalance calculation:

a) incentivise TSOs to fulfil their obligations for system balancing and ensure that imbalances are settled at a price that reflects the real-time value of energy.

b) Each TSO shall calculate the imbalance for each BRP for the final position, the allocated volume, the imbalance adjustment and the imbalance:

- for each imbalance settlement period; and
- for each imbalance area.

c) Imbalance area shall be equal to scheduling area;

d) Each TSO shall develop the terms and conditions for BRPs.

# 3. Building blocks

The TSOs hereby present their vision for the Baltic common imbalance settlement arrangements described through separate building blocks as detailed in the Study. The building blocks include the relevant items which will be harmonised and which shall enter into force in January 2018.

**Table 1 - Building blocks for imbalance settlement harmonisation**

| Building block | Baltic TSOs proposal |
|---|---|
| Balance responsibility | Full |
| Cost coverage/base | Neutrality costs between balance service and grid service. Full cost of balancing. |
| Main imbalance price determination | Marginal |
| Imbalance settlement period | 60 minutes |
| Settlement model | Single portfolio model |
| Pricing model for ACE | Excluded |
| Pricing model for imbalance | Single reference pricing |
| Balancing cost recovery model | Hybrid |

## 3.1. Balance responsibility – 100%

All market participants, including RES generators, should have balance responsibility. Each BRP shall be financially responsible for their imbalances to be settled with their connected TSO.

## 3.2. Cost coverage – full cost balancing and neutrality principle

A common cost base (cost recovery structure) for imbalance settlement needs to be established to reflect a common concept towards imbalance. The principle of cost reflectiveness is relevant – costs for balancing are paid for by the BRPs while any cost for grid operation should be paid through the grid tariff. The Baltic TSOs have agreed on the cost-base philosophy, which would enable to recover the following expenses:

- mFRR for balancing purposes (100%) – manually activated reserves that are activated by order of the TSO in order to manage the electricity system balance due to intermittent production or consumption
- Area control error (ACE) cost (100%) – system not netted imbalance cost towards the Open Balance Provider
- Imbalance energy traded with BRPs for balancing purposes (100%)
- Settlement and administrative costs related to balance management

In case balancing energy bids are activated for purposes other than balancing, the price of these activated balancing energy bids shall not determine the imbalance price and shall not set the price of balancing energy in case marginal price is applied. Examples of these trades include balancing trades made for congestion management (e.g. countertrades) and those, which have been made for the needs of another country's TSO (e.g. balance service exchange for the Nordics).

Total balancing costs shall be recovered through imbalance prices and application of residual costs (costs not covered by imbalance prices) recovery component. The settled principle is that TSOs are financially neutral with regard to imbalance settlement. Financial neutrality in that regard means that TSOs are not allowed to gain profit from any balancing energy settlement processes. In addition, TSOs shall not use the financial outcome as a result of imbalance settlement to cover the cost of congestion.

## 3.3. Main imbalance price determination – marginal

At present, all Baltic markets have imbalance pricing based on an average basis rather than a marginal. The main imbalance price determination should be calculated on a marginal basis based on activated balancing energy, excluding actions for non-balancing (e.g. countertrading, congestion management) purposes.

As the GL EB draft indicates that marginal pricing should be used for pricing balancing energy, then the (main) imbalance price should ideally follow the same principle and reflect the marginal cost of balancing energy provision. If balancing and imbalance prices are not similar there are negative implications. One implication is a loss of efficiency. Another is that hedging becomes more difficult due to the spread that emerges between the two prices. This can then manifest as higher risk premiums integrated into hedging contracts which drives up system costs and promotes illiquid markets.

Under a marginal price arrangement, in case of mFRR up-regulation, all market participants receive the price of the most expensive offer that was accepted, and in case of mFRR down-regulation, market participants receive the price of the cheapest activated offer. Therefore market participants are incentivised to bid at their short run marginal cost which provides a clear reference price for the marginal cost. This should result in a more efficient use of resources.

## 3.4. Imbalance settlement period – 60 minutes for 2018

The imbalance settlement period (hereinafter – "ISP") should be 60 minutes as a first step with a view to moving towards a shorter ISP in the future as per discussions under the GL EB draft. An ISP of 60 min. is consistent with the current Nordic arrangements and the open balance agreement with the UES system operator. This issue, however, must be kept under review as the Nordic arrangements review the implications of the GL EB draft.

## 3.5. Settlement model – single portfolio model

The Baltic TSOs propose to adopt a **single portfolio model** meaning that both production and consumption are dealt within the same portfolio. The concept of the single portfolio model is to give the right incentives for market participants to balance the system, based on transparency and sharing of information.

It is clear that the single portfolio model benefits parties which operate both production and consumption. However, this may seem unfair to the BRPs which are currently operating only one-sided, the opportunity to expand into either one would benefit them as well. On the other hand, the possibility of netting imbalances incentivises BRPs to self-regulate – parties are incentivised to take and/or maintain a position opposite to overall system imbalance and may keep their imbalances as they are trying to anticipate the system imbalance's length. More discussion and details on the positive implications of the single model could be found in the Study.

**Single settlement model**

The calculation of imbalance for single portfolio consists of aggregated planned and measured data and imbalance adjustment trades per imbalance settlement period, whereas:

1) **Planned balance** reflects the final net volume of commercial transactions for each ISP on organised markets or between BRPs
2) **Measured balance** reflects the net volume of realized physical generation and consumption per ISP over the connections for which the BRP is responsible
3) **Imbalance Adjustments** reflect the mFRR bids activated by TSO within the specific BRP's balance area

The algebra for a single balance portfolio is the following:

**Table 2 - Single portfolio imbalance calculation components**

| | |
|---|---|
| **Planned balance** | Net balance schedule, whereas Production + Purchase = Consumption + Sale |
| **Measured balance** | ∑(P_in-P_out) metered data in a BRP's portfolio |
| **Imbalance** | Measured – Planned –/+ portfolio's Imbalance Adjustment |

Settlement shall be carried out based on metering point data of BRP's balance area. For that purposes network operators shall submit to TSO the measurement data per metering points or total values of BRP's balance area (Pin and Pout data of each metering point).

When a BRP is long (imbalance surplus), it means that more electricity had been produced or less consumed than it had initially contracted. When a BRP is short (imbalance deficit), it means that less electricity had been produced or more consumed than it had initially contracted. Imbalances will be settled in each direction i.e. for shortage and surplus. Therefore, the resulting imbalance calculated for BRPs is either positive or negative, whereas positive imbalance indicates that the TSO has bought surplus imbalance from a BRP and a negative imbalance conversely means that the TSO has sold imbalance to the BRP to cover its shortage.

The following is an example of imbalance calculation in a single portfolio model (MWh):

**Table 3 - Example of imbalance calculation**

| | |
|---|---|
| **I. NET POSITION (PLANNED BALANCE)** | **-5** |
| - incl. Planned consumption (purchase from Power Exchange and/or bilateral agreements) | 10 |
| - Incl. Planned production (sale to Power Exchange and/or bilateral agreements) | 5 |
| **II. NET MEASURED BALANCE** | **-2** |
| - Incl. measured consumption (the sum of Pout values per metering points) | 8 |
| - Incl. measured production (the sum of Pin values per metering points) | 6 |
| **III. ACTIVATED IMBALANCE ADJUSTMENT (UP regulation)** | **1** |
| **IV. IMBALANCE VOLUME** | **2** |

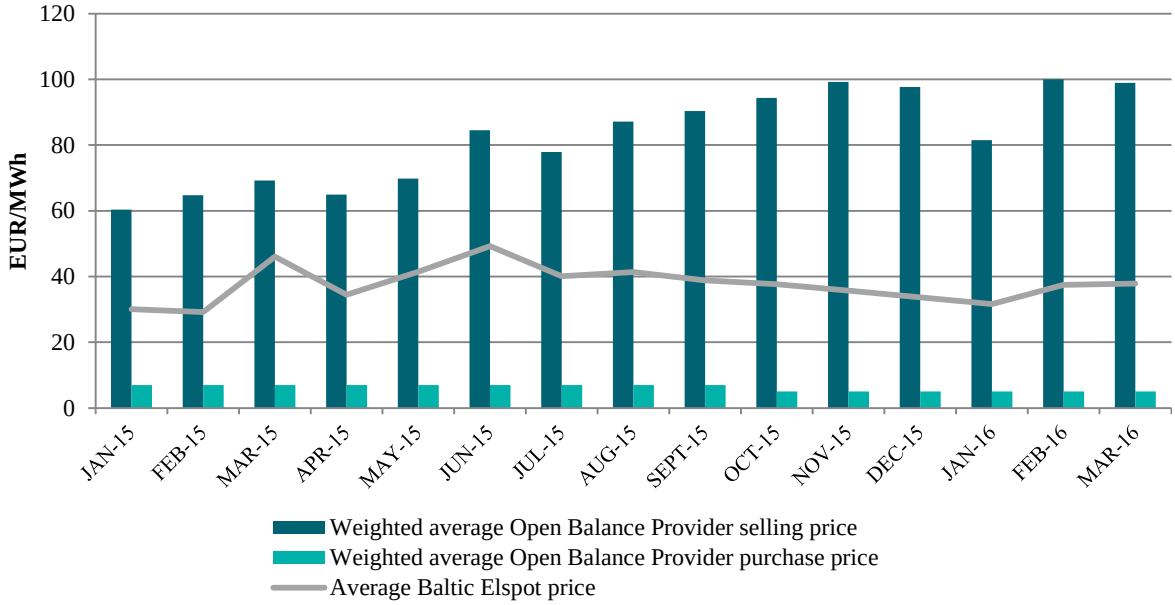
BRPs shall submit to the connected TSO the planned balance in which there must be balance between production and purchases vs consumption and sales. The forecasted and/or systematic purchase or sale of imbalance electricity is not allowed.

The rules for measurement data exchange between TSO and network operators and rules for defining the balance area of BRPs shall be set individually per each country.

## 3.6. ACE involvement in imbalance pricing – ACE excluded

ACE is referred to as the system imbalance that the TSOs trade with the Open Balance Provider. ACE costs are a significant part of balancing costs in the Baltic markets since it is incurred in every operational hour. The tariffs provided by the system supplier are significantly higher compared to Baltic electricity market prices (depicted in Figure 1).

**Figure 1 – ACE and Elspot prices in Baltics, EUR/MWh**




In the Study, the consultant presented three possible alternatives on how to handle ACE in the imbalance price formation. **The Baltic TSOs propose to implement the ACE excluded model.** If ACE is fully excluded from the main imbalance price, it means that the ACE price and the ACE

volume are not considered in the calculation of the marginal imbalance price. In this option ACE is not included in the 'stack' of activations and can therefore not set the price, and the ACE volume that is used in balancing the system is not included in the target volume. **The ACE excluded model means that imbalance price doesn't include all the costs and hence ACE costs shall be recovered through applying supplementary settlement component for sharing the residual balancing costs by BRPs.**

**Table 4 - Pros and cons of the ACE excluded model**

| Pros | Cons |
|---|---|
| Transparent and straightforward | Imbalance price doesn't include all the costs |
| Incentivises BSPs to offer more balancing resources to the market | Supplementary settlement component is needed in order to recover the cost of ACE |
| As there is a remarkable spread between ACE prices and power exchange prices in Baltic, the ACE price for settlement period could differ a lot compared to real market prices. | Marginal price would not reflect the actual ACE system cost |
| Incentivises TSOs to use balancing resources more efficiently | |

The consultants proposed the Baltics to choose ACE selectively included model, which means that the reference imbalance price shall be calculated based on mFRR bids towards ACE volume. Baltic TSOs currently estimate some uncertain implications for the IT solutions and transparency issue. In addition, the prices charged and remunerated for imbalances and balancing regulations would differ, and could possibly do so to a substantial degree. This model would also, at least to some extent, not provide TSOs the maximum incentives to use the balancing.

## 3.7. Imbalance pricing model – single reference price

The selection of the number of portfolios and number of prices should be considered together. A single imbalance price results in cash settlement which nets out at the highest corporate portfolio level, irrespective of the number of imbalance portfolios. In addition, the GL EB draft states that single pricing should be preferred as opposed to dual pricing.

**Table 5 - Single pricing model**

| **Single pricing model** | | **System Imbalance** | |
|---|---|---|---|
| | | Short | Long |
| **BRP imbalance** | Short | (-) Main price | (-) Main price |
| | Long | (+) Main price | (+) Main price |

* (-) denotes cash flows from the BRP to the TSO and (+) denotes cash flows from the TSO to the BRP

The single pricing model means that BRPs whose imbalance supports the system balance should not be punished, but should be regarded as contributing to the reduction of the system balance.

Single price additional pros:

- it enables participation of resources outside standard balancing products, which are expected to become more prevalent as demand-side develops;
- it gives incentive to focus on the system imbalance (if adequate data is available to BRPs);
- less of a burden for parties which find self-balancing difficult (e.g. intermittent or smaller generators);
- improves transparency of imbalance prices and could be easier to understand, potentially improving market entry;
- single imbalance price should also help mitigate the risk of imbalance for smaller parties, as these parties tend to have the largest volumes of imbalance in the opposite direction to the system.

**The Baltic TSOs propose to adopt a single reference imbalance price system.** Since identical prices for both imbalance shortage and surplus would steer away BRP incentives to be better balanced, a targeted imbalance volume component (hereinafter - targeted component) would apply in the pricing scheme. The price spread will therefore apply (to the price at which TSO sells to a BRP to cover its shortage) or subtracted from (the price at which TSO buys from a BRP to cover its surplus). A similar pricing set-up is currently in place in Estonia and Latvia, but more in terms of covering administrative costs rather than recovering ACE costs. The components for the imbalance price would therefore consist of:

1. Marginal activated mFRR balancing bid price
2. Reference price
3. Targeted component

**Table 5 - Single reference pricing model for Baltic**

| **Single reference pricing model** | | **BRP's Imbalance** | |
|---|---|---|---|
| | | Short | Long |
| **SYSTEM balancing direction** | UP REG hour | Marginal UP REG price + targeted component | Marginal UP REG price - targeted component |
| | DOWN REG hour | Marginal DOWN REG price + targeted component | Marginal DOWN REG price - targeted component |
| | No REG (-) hour | Reference price + targeted component | Reference price - targeted component |

- ✓ The single reference price shall be set with the marginal balancing market price.
- ✓ In case there were no bids activated in the balancing market, a reference price is used. **Reference price** for no activation hours the selling and purchase prices shall be equal to the arithmetical average price of Nord Pool power exchange Day-ahead prices of Estonia, Latvia and Lithuania bidding areas for the respective settlement period (the same price is/shall be used also for TSO-TSO netting for no activation hours on mFRR market. Therefore the reference price couldn't be the local Elspot price).
- ✓ The targeted component will be attributed to the imbalance reference price. This should incentivise BRPs to strive to be balanced and for TSO targeted revenues shall be base part of settlement mechanism to ensure recovery of full costs of balancing.

## 3.8. Imbalance service cost recovery model – hybrid model

With the adoption of the ACE excluded imbalance pricing model, there are costs incurred in the balancing service that are not recovered through imbalance pricing.

The balancing cost not recovered through imbalance pricing in this context can be split into the following components:

- ACE cost (major part of additional costs)
- Administrative costs

The principle of financial neutrality enables TSOs to collect income from imbalance settlement that would cover all costs incurred while performing balancing operations. In the Study, the consultant presented three alternative cost recovery mechanisms.

The Baltic TSOs propose to adopt a **hybrid model** applying cost recovery solution based on targeted and actual consumption components.

**Table 6 - Baltic cost recovery mechanisms**

| Balance service costs included in the imbalance service | Allocation share | Cost recovery mechanism |
|---|---|---|
| 1) System not netted imbalance costs (ACE)<br>2) Settlement and administrative costs related to balance management | 100% | Via targeted component (harmonised) included to imbalance price<br>Additional actual consumption component based on the consumption of BRPs portfolio |
| 3) mFRR for balancing purposes | 100% | Imbalance price |
| 4) TSO-TSO netted imbalance cost | 100% | Imbalance price |
| 5) Imbalance energy traded with BRPs | 100% | Imbalance price |

The TSOs have agreed that targeted component value shall be the same for all systems. But as the settlement net income is calculated per system, the consumption component values will differ.

The Baltic TSOs propose to impose actual consumption component, as also recommended in the Study. The reasoning for that is that any additional costs for actual production will lead to increases in the power exchange and also to mFRR market prices in proportion to the added costs. Therefore the preferred approach would be to levy it only on demand volumes.

The consumption component is defined as EUR per each MWh of measured consumption in a BRPs balance area for each ISP.

**Targeted component** is aiming to recover the full cost balancing, and also to ensure that imbalances are settled more with the price that reflects the actual cost of balancing energy and to incentivise BRPs to strive to be balanced. Based on Study results, by implementing solely the targeted component without other component (with ACE excluded imbalance pricing model), the spread levels between imbalance electricity buy and sell may be very high. Moreover, based on the socio-economic analysis, the use of only targeted component would basically give the same result as ACE included pricing would give. TSOs have agreed that the targeted component level shall be the same for all Baltic systems. Therefore, if there is no congestion on mFRR market, the imbalance prices shall be the same in all Baltic areas.

## 3.9. The methodology for the balancing service cost recovery

For covering the not netted system ACE cost and administrative costs related to balance management, the hybrid model (applying pricing components targeting imbalance and actual consumption volumes) shall be implemented. Income generated in the imbalance settlement will cover the national cost base.

The pricing model for each BRP includes:

a) As imbalance price for each settlement period includes the targeted component, the main share shall be covered via targeted imbalance pricing ($BRP_{i\ imbalance} * T_{price}$).

b) The consumption component shall be invoiced based on actual consumption in the BRP's portfolio for the whole month and the fixed consumption component shall apply ($BRP_{i\ consumption} * C_{price}$).

**It is not possible to fix the cost allocation proportions clearly** as the targeted component aims to act as incentive to keep the balance (TSOs shall increase the targeted component if the imbalance volume increases and opposite). As a starting point Baltic TSOs aims to apply 70% / 30 % shares for targeted component and actual consumption components to recover the Baltic balancing costs.

**Table 7 - Balancing cost recovery structure**

| Cost recovery component | Harmonised level | Publication for BRPs | Methodology and limits |
|---|---|---|---|
| **Targeted component** | Same value for all Baltic systems. | Latest 3 months in advance | Component level shall be calculated aiming the price that reflects the actual cost of balancing energy.<br>Component level: the balance between an incentive to keep the balance and reasonable share of local market prices. |
| **Consumption component** | Individual value for each Baltic system. | Latest 3 months in advance. | Calculation: TSO net income/consumption under settlement with BRPs (offtakes from grid). |

The balancing cost recovery component levels are set by each TSO in proportion to the national cost base, and can be changed with 3 months' notice in advance. TSOs are responsible for calculating and notifying BRPs of the reductions or increases of balancing cost recovery components. Imbalance pricing settlement related information shall be published on the websites of the TSOs.

The additional cost for each system is calculated based on spread between the ACE cost (ACE price * not netted volume for each system) and imbalance price for BRPs. The total balancing cost including spread shall be covered via targeted and consumption components. The calculation of spread between ACE prices and single imbalance prices for BRPs is done based on statistics.

The net income for imbalance settlement wouldn't be directly cost-based on fixed periods, but the cost-based target shall be achieved through long term periods. Based on statistics, TSOs shall forecast the possible tariffs for net income.

**Table 8 – Theoretical methodologies for calculating the balancing cost recovery components**

| Input | Methodology | Example values based on statistics for 2015 |
|---|---|---|
| **Total additional not netted ACE costs for Baltic** | a) Spread between imbalance reference price for BRPs towards ACE price for TSOs<br>b) administration costs related to balance management | Baltic: 12 MEUR |
| **Total BRPs imbalance volume** | Absolute value of BRPs imbalance volumes | Baltic: 1320 GWh |
| **Maximum targeted component for BRPs** | Total additional ACE cost/ BRPs imbalance volume | Baltic: 9 €/MWh |
| **Targeted component level** | The balance between an incentive to keep the balance and reasonable share of local market prices | 70% of Baltic total balancing cost = 6,4 €/MWh |
| **The share of targeted component towards local market prices** | Average Elspot price (EE,LV,LT) and share of imbalance volume targeted component | Targeted component = 17% of average Baltic Elspot price ( 38,3€/MWh) |

**Table 9 - Examples of calculated balancing cost recovery components based on 2015 statistical data**

| 2015 year | Additional costs for TSO, MEUR | BRPs imbalance, GWh | Consumption, GWh | Imabalance volume targeted component, €/MWh | Actual consumption component, €/MWh | Share of targeted component, % | Share of consumption component, % |
|---|---|---|---|---|---|---|---|
| **EE** | -4,2 | 461 | 8 137 | 6,4 € | 0,2 € | 69% | 31% |
| **LV** | -3,1 | 217 | 7 086 | 6,4 € | 0,2 € | 45% | 55% |
| **LT** | -4,7 | 642 | 10 445 | 6,4 € | 0,1 € | 87% | 13% |
| **Baltic** | -12 | 1 320 | 25 667 | 6,4 € | 0,1 € | 70% | 30% |

The TSOs will arrive at the detailed settlement methodology by Q1 of 2017, taking into account valuable feedback received from market participants within the underlying consultation process. The TSOs shall publish the imbalance settlement information (incl. information on targeted and consumption components) for year 2018 by 30.09.2017.

**Table 10 – An example of single pricing model in various scenarios**

| Case hour: | 1<br>€/MWh | 2<br>€/MWh | 3<br>€/MWh | 4<br>€/MWh |
|---|---|---|---|---|
| **Activated UP REG price** | 65 | - | 60 | - |
| **Activated DOWN REG price** | - | - | - | 20 |
| **Average Baltic Elspot price** | 50 | 40 | 60 | 40 |
| **Reference price** | 65 | 40 | 60 | 20 |
| **mFRR dominating direction** | Up | - | Up | Down |
| **mFRR market price = single imbalance reference price** | | | | |
| **EE area** | 65 | 40 | 60 | 20 |
| **LV area** | 65 | 40 | 60 | 20 |
| **LT area** | 65 | 40 | 60 | 20 |
| **Targeted component** | 6,4 | 6,4 | 6,4 | 6,4 |
| **IMBALANCE SELLING PRICES:** | | | | |
| **EE area** | 71,4 € | 46,4 € | 66,4 € | 26,4 € |
| **LV area** | 71,4 € | 46,4 € | 66,4 € | 26,4 € |
| **LT area** | 71,4 € | 46,4 € | 66,4 € | 26,4 € |
| **IMBALANCE PURCHASE PRICES:** | | | | |
| **EE area** | 58,6 € | 33,6 € | 53,6 € | 13,6 € |
| **LV area** | 58,6 € | 33,6 € | 53,6 € | 13,6 € |
| **LT area** | 58,6 € | 33,6 € | 53,6 € | 13,6 € |

The summarised pros aspects for proposed pricing model are:

- The imbalance prices will be closer to local market prices, which means that ACE tariffs will not set the price for particular settlement hour;
- Targeted component will give BRPs the incentive to keep the balance;
- Consumption component reduces the risk for excessively higher targeted component application for settlement hour;
- Incentivises TSOs to use balancing resources more efficiently;
- Enables to implement single pricing (reference) model;
- Transparent methodology;
- In line with targeted requirements for settlement model (chapter 3).

## 3.10. Other items to be harmonised

There is however a number of additional settlement arrangements, some of which take first priority, and other arrangements that are not included in the common harmonisation package. The following table presents an overview of the items, which are included in the current harmonisation package (marked as "Shall be harmonised"), and the rest (marked as "Individual conditions"), which shall be decided on a national level. All of these items shall be included and published in the standard terms and conditions consultation process (at the beginning of 2017).

**Table 11 - Other items to be harmonised**

**Targeted model for harmonisation 2018 of other items about balance management**

| Settlement item | Estonia | Latvia | Lithuania | HAR for 2018 |
|---|---|---|---|---|
| Imbalance price publication | H + 1 | H + 1 | H + 1 | Shall be harmonised. |
| Balance report | Monthly based | Monthly based | Monthly based | Shall be harmonised. |
| Correction period for final balance report between TSO-BRP | No correction period between TSO-BRP. | To be defined in standard terms and conditions for BRPs. | No correction period between TSO-BRP. | Shall be harmonised. |
| Correction period after final balance report | Handled bilaterally between BRP-network operator.<br>12 months. | To be defined in standard terms and conditions for BRPs. | Handled bilaterally between BRP-network operator. | Individual conditions. |
| Deadline of metering data for suppliers | 5th day of next month | 5th working day of next month | 5th working day of next month | Shall be harmonised. |
| Initial balance report for BRP | By 6th working day of next month | By 6th working day of next month | By 6th working day of next month | Shall be harmonised. |
| Data exchange formats | Xml | Excel or Xml | Excel or Xml | Individual conditions |
| Guarantees | Dynamic.<br>Electricity market law and terms and conditions for BRPs. | Amount linked to portfolio volume (generation + production)<br>Terms and conditions for BRPs. | Dynamic.<br>Terms and conditions for BRPs. | Individual conditions. |
| Gate closer time for balance plans | H-45 min | H-45 min | H-45 min | Shall be harmonised. |
| Content of balance plans | Standard terms and conditions for BRPs. | To be defined in standard terms and conditions for BRPs. | Standard terms and conditions for BRPs. | Individual conditions. |
| Content of balance settlement (format) | Standard terms and conditions for BRPs. | To be defined in standard terms and conditions for BRPs. | Standard terms and conditions for BRPs. | Shall be harmonised. |

For single pricing to be effective, participants must be given access to accurate real-time information regarding the direction of the system imbalance and access to (at least indicative) prices. The ultimate objective would be to publish pricing information to the effect as it is done in the Nordics.

The Baltic TSOs have agreed upon a harmonised deadline for submitting issuing balance reports on the 6$^{th}$ working day. After this deadline there should be possibility for BRP to contest the balance report within 2 working days. After confirmation of balance reports further corrections are to be settled bilaterally between the network operator and supplier. This is intended to provide an incentive for the network operators to ensure the quality of metering data in the first delivery.

The balance report shall contain the inputs and outputs of the balance settlement calculation. Inputs refer to imbalance prices as well as the aforementioned components such as planned, measured and imbalance adjustment trades per each ISP. Outputs on the other hand reflect the volume and the imbalance charges (financial settlement calculations).

It is also recommended that the Baltics move to ENTSO-E XML as the data exchange format with support for Excel as a transitional measure. This is however seen necessary to ensure that balance settlement information is based on the same format so that it can be sent between parties in different Baltic countries, and later between Baltic and Nordic market parties.

Regarding guarantees, the adoption of dynamic guarantees, similar to what will be used in the Nordic Balance Settlement, is recommended. However, since guarantee principles are closely tied with national regulations, the terms and methodologies for them shall be individually developed for each country.

## 3.11. Questions for Stakeholders about imbalance settlement model

Stakeholders are invited to answer the following questions, directly linked to the chapters of this document.

**1.** Do you agree that the proposed settlement design is in line with the principles of the GL EB draft and the integration of balancing markets? Please provide your detailed views on this section.

**2.** Do you agree with the building block in chapter 3.1 for full balance responsibility requirement? Please provide your detailed views on this building block.

**3.** Do you agree with the building block in chapter 3.2 for cost coverage base included to imbalance service? Please provide your detailed views on this building block.

**4.** Do you agree with the building block in chapter 3.3 for marginal pricing principle? Please provide your detailed views on this building block.

**5.** Do you agree with the building block in chapter 3.4 for imbalance settlement period? Please provide your detailed views on this building block.

**6.** Do you agree with the building block in chapter 3.5 for single portfolio model? Please provide your detailed views on this building block.

**7.** Do you agree with the building block in chapter 3.6 for ACE excluded pricing model? Please provide your detailed views on this building block.

**8.** Do you agree with the building block in chapter 3.7 for single imbalance pricing model? Please provide your detailed views on this building block.

**9.** Do you agree with the building block in chapter 3.8 for hybrid cost recovery model? Please provide your detailed views on this building block.

**10.** Do you agree with the proposed methodology for hybrid cost recovery in chapter 3.9? Please provide your detailed views on mentioned methodology.

**11.** Do you agree with the other harmonisation items in chapter 3.10? Please provide your detailed views on these items.