# Single Balance Model

## Changes and updates in eSett

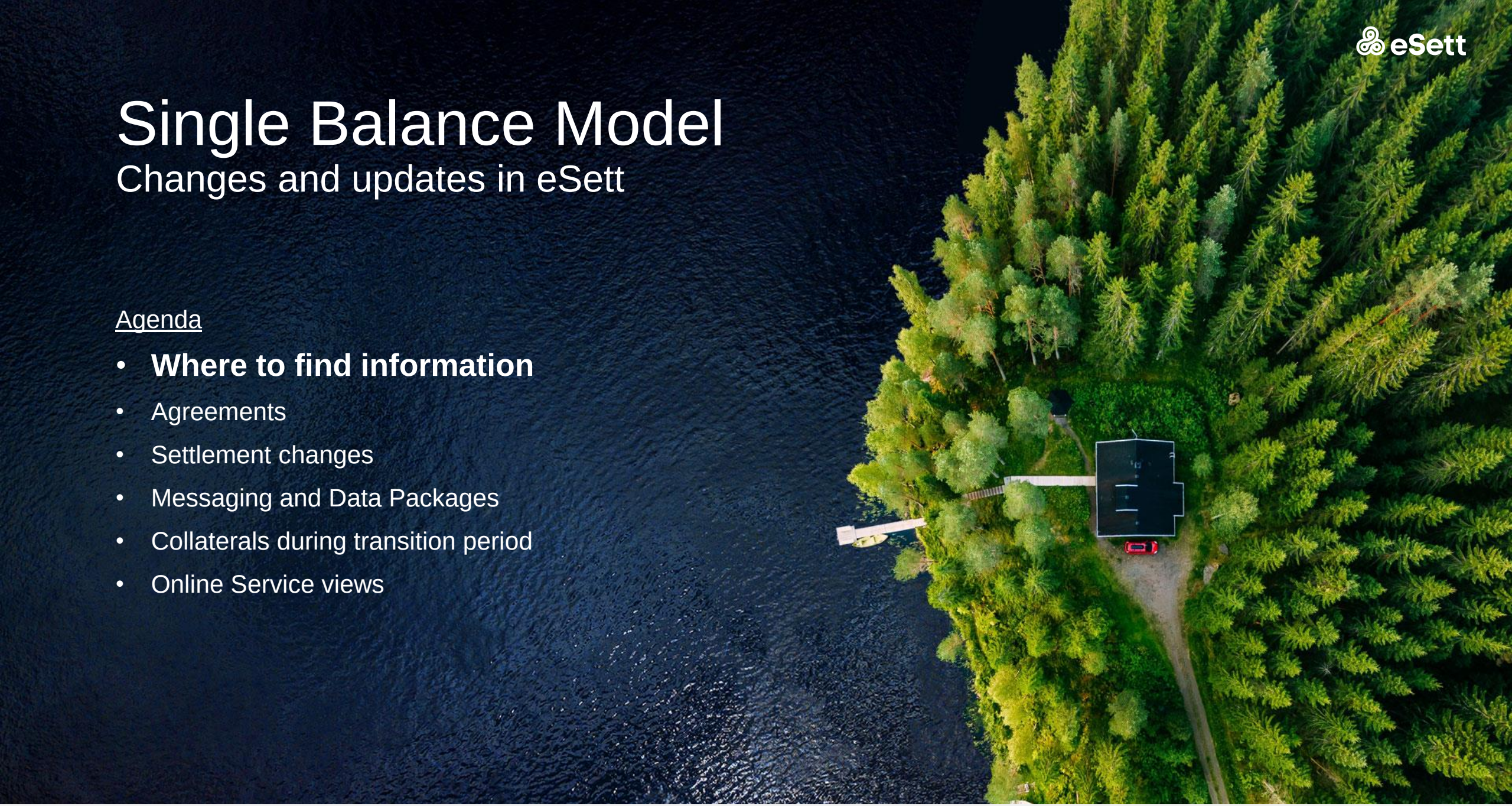
Kim Saarijärvi, Diana Welander

Agenda

- Where to find information
- Agreements
- Settlement changes
- Messaging and Data Packages
- Collaterals during transition period
- Online Service views

# Single Balance Model

## Changes and updates in eSett



Agenda

- **Where to find information**
- Agreements
- Settlement changes
- Messaging and Data Packages
- Collaterals during transition period
- Online Service views

eSett

ABOUT NEWSROOM CUSTOMERS PROJECTS HANDBOOK CONTACT US

- Development Roadmap
- Finnish Datahub
- Single Balance
- Balance Service Provider Model
- 15-minute Settlement

Home > Projects

# Single Balance

The Nordic Transmission System Operators (TSO) have agreed to implement a single price – single balance imbalance settlement model as the EU regulation, Electricity Balancing Guideline, requires harmonization of the imbalance calculation and pricing principles on a European level. The go-live date has been set for November 1, 2021 at 00:00 CET.

## The main changes are:

- Currently, imbalances are calculated and settled for both production and consumption. After the implementation of the single balance model only one imbalance is calculated and settled.
- Previously, production imbalance has been priced according to a two-price model: positive and negative production imbalances have different prices. The single price model uses

# Commission plan for Single Balance – Single Price Model

- Describes on a high-level how the introduction of the Single balance model affects the Imbalance Settlement model, the market participants' operations and eSett's interfaces

- Describes upcoming changes when the Single Balance model will be taken into use:
  - How imbalances are calculated
  - Defines the single balance position
  - Describes how the imbalance price is formed
  - Defines visible technical changes for the market participants
  - Specifies changes to the Online Service user interface
  - Summaries the changes in the reporting of imbalance settlement results from eSett to the BRPs

- The document will be updated based on any updated information concerning the Single Balance Model

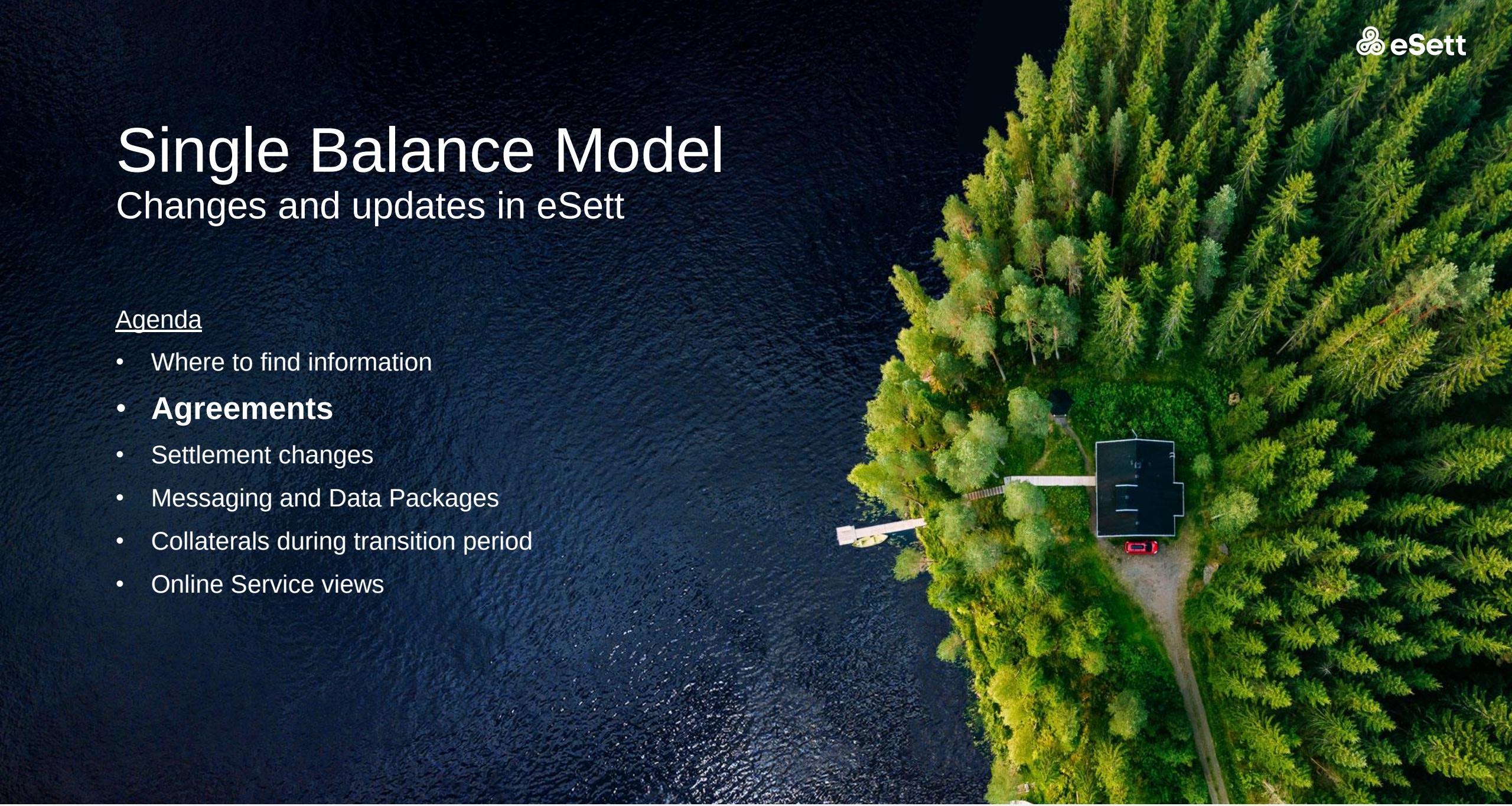
# Single Balance version of the NBS Handbook

- The purpose of the Handbook is to support market participants in the planning and implementation of the new Single Balance model which will be applied from 1.11.2021

- The NBS Handbook is published on eSett's website under the page “NBS Handbook” and under the page “Single Balance”.
  - The Handbook is available in English and unofficial translations are available in Finnish, Norwegian and Swedish.

# Single Balance Model

## Changes and updates in eSett



Agenda

- Where to find information
- **Agreements**
- Settlement changes
- Messaging and Data Packages
- Collaterals during transition period
- Online Service views

# Updates in the Balance Agreement

- In Denmark, Norway and Sweden, the implementation of the Single Balance will not require any changes to the Balance agreement
- Balance agreements will be updated in Finland during September-October 2021
  - Fingrid will terminate the current Balance Agreement on 1.11.2021 01:00 EET
  - eSett will coordinate the renewal of agreements
  - Electronic signing will be used

# Changes in the appendices of the Imbalance Settlement Agreement

- No changes will be made in the Imbalance Settlement agreement or the Pledge and Right of Disposal of Cash Account
- Appendices will be amended to reflect the changes of the model
  - eSett will notice the market participants at least one (1) month beforehand
  - New appendices will be published on www.eSett.com
  - No re-signing of the agreements required

| Agreement / Appendix | |
|---|---|
| Imbalance settlement agreement | No changes |
| Appendix 1 Fees | Minor updates |
| Appendix 2 Collaterals | Minor updates |
| Pledge and Right of Disposal of Cash Account Agreement | No changes |
| On-Demand Guarantee | No changes |

# Changes in the appendices of the Imbalance Settlement Agreement

## Appendix 1: Fees

- The applicable fee rates per fee category and country are amended

| Two balance | Single balance |
|---|---|
| Consumption Fee | Volume Fee |
| Production Fee | Imbalance Fee |
| Consumption Imbalance Fee | Weekly Fee |
| Weekly Fee | Peak Load Reserve Fee |
| Peak Load Reserve Fee | |

## Appendix 2: Collaterals

- No changes in the Collateral formula
- Fees and prices will be updated to reflect the single balance model

3.2 Under normal circumstances, the Collateral Requirement shall be calculated according to the following formula ("Standard Formula"):

$$Collateral\ Requirement = 3 * (S_1 + S_2) + m * (V_1 + V_2) * P$$

Where:

**$S_1$** = Average of the sums of invoiced volume~~production fees, consumption~~ fees and ~~consumption~~ imbalance fees per week for the last three invoiced weeks, including any VAT on these amounts that the BRP is liable to

**$S_2$** = Average of the absolute amounts of the sums of invoiced ~~production and consumption~~ imbalances in a week for the last three invoiced weeks, including any VAT on these amounts that the BRP is liable to

**$V_1$** = Consumption volume the last seven settled days

**$V_2$** = Bilateral and PX market sales volumes during the last seven days for which such volumes are available (current day minus 8 days to current day minus 2 days)

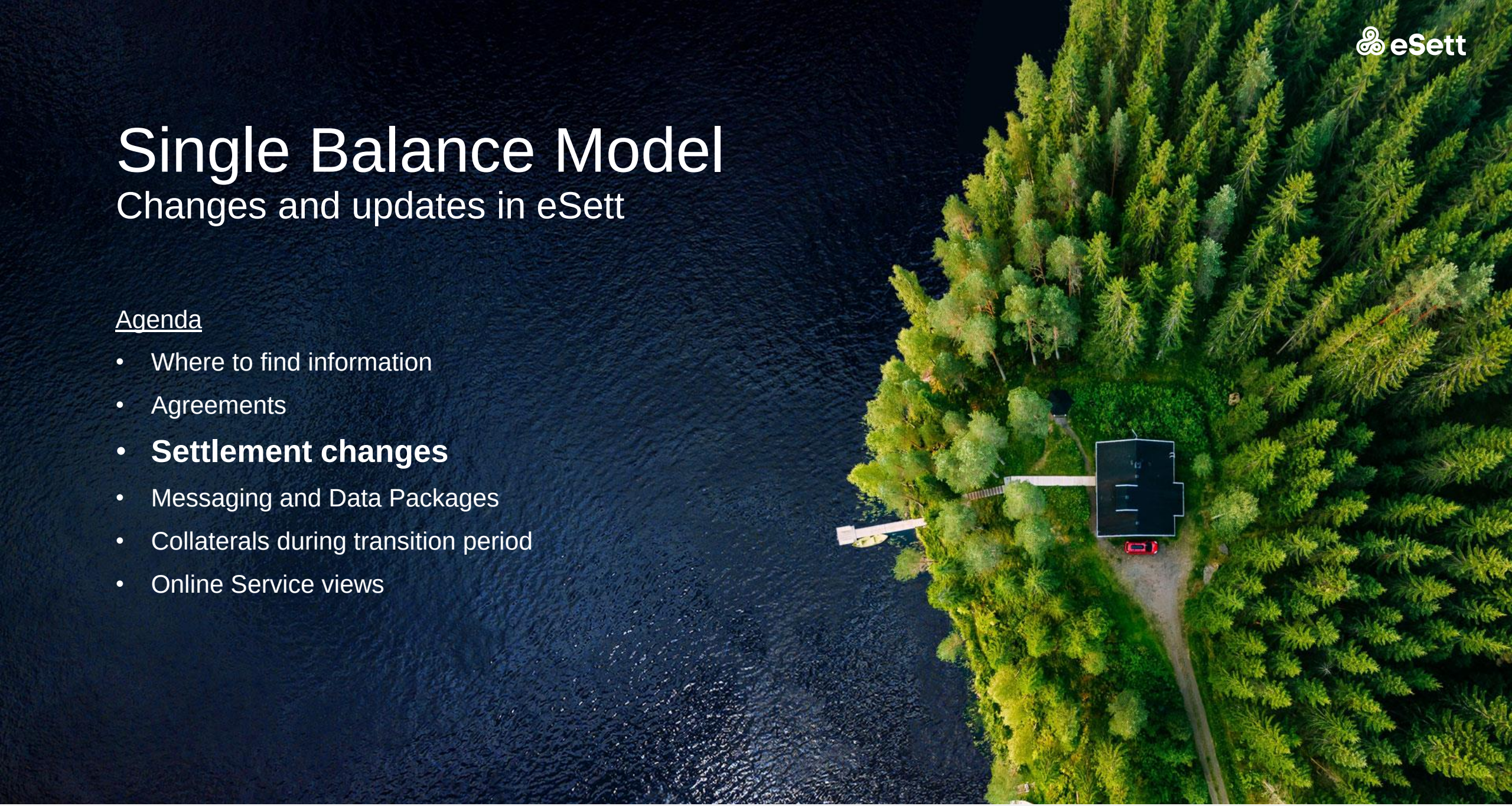
**m** = Multiplier:

- 3/7 for the share of ($V_1$+$V_2$) that does not exceed 80,000 MWh
- 1/7 for the share of ($V_1$+$V_2$) that exceeds 80,000 MWh but does not exceed 400,000 MWh
- 0 for the share of ($V_1$+$V_2$) that exceeds 400,000 MWh

**P** = Average of the ~~consumption~~ imbalance prices in the different MBAs during the last seven days for which such prices are available, where the price of each MBA is weighted according to the share of the BRP's total turnover (consumption, PX market sales and bilateral sales) during the last three invoiced weeks that took place in the respective MBA

# Single Balance Model

## Changes and updates in eSett



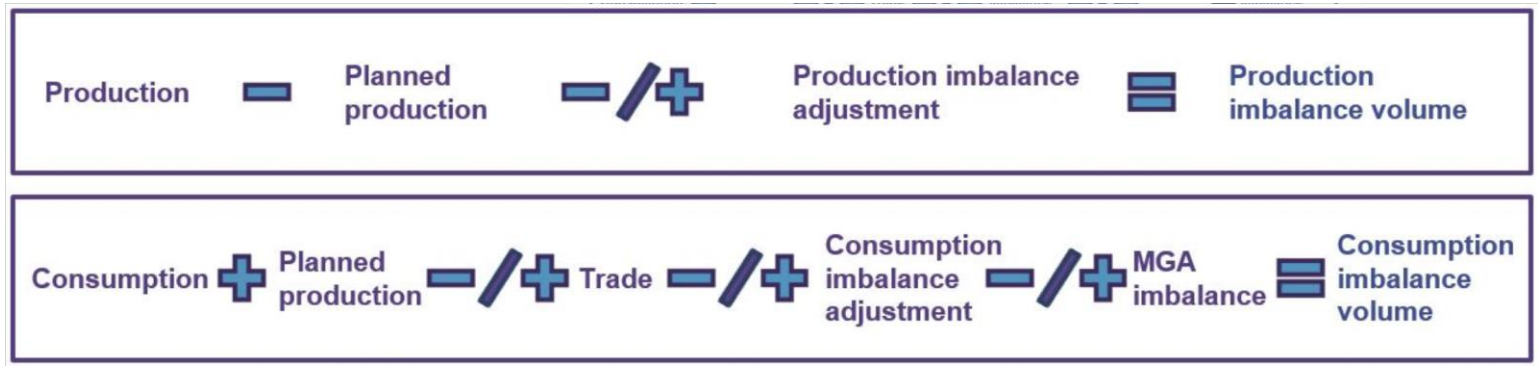
Agenda

- Where to find information
- Agreements
- **Settlement changes**
- Messaging and Data Packages
- Collaterals during transition period
- Online Service views

# From two balances and single/dual pricing to single position and single price

- The new single balance model is introduced in the European regulation and Electricity Balancing Guideline
- The current imbalance settlement model will be changed from two balance model to single position – single price model

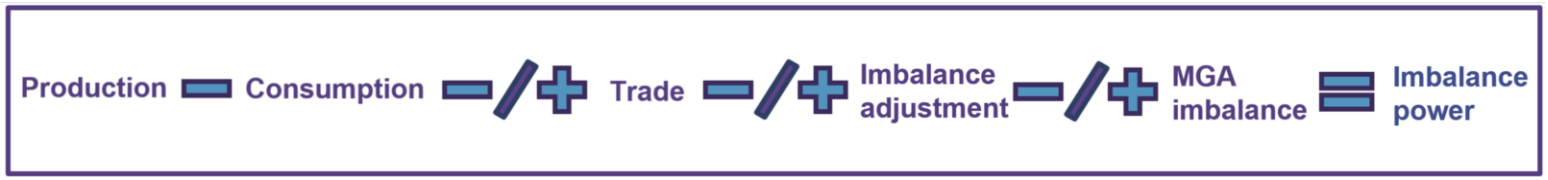
Current




Financial settlement is achieved by using dual price in production and single price in consumption

- **Future imbalance settlement model (single price is used)**

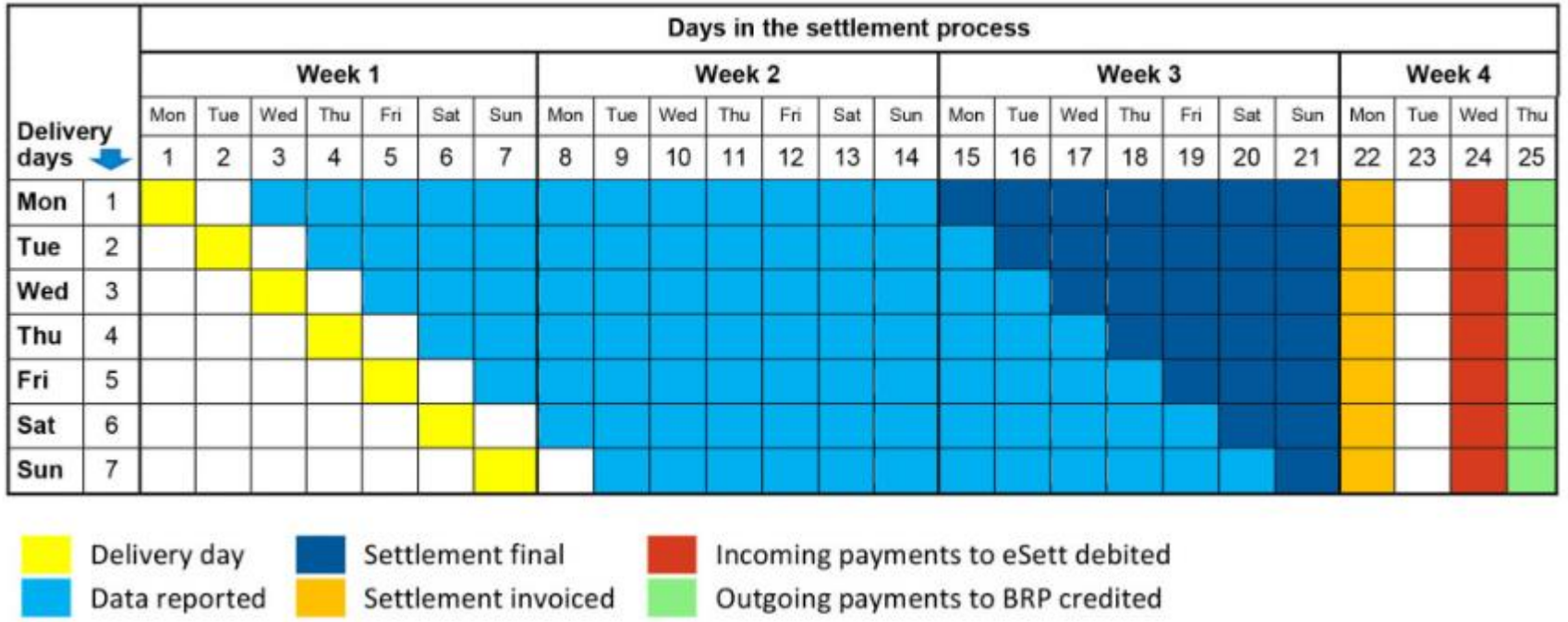
New




Financial settlement is achieved by using single price

# The main principles in the settlement will remain the same

- No changes to the market roles
- No changes to the reporting responsibilities
- No changes to the settlement cycle
- No changes to gate closures
- No changes to invoicing process



# Minor production structure changes

- **In Finland and Norway**, minor production is modelled in consumption balance in two balance model -> In single balance model minor production is modeled in a similar manner as normal production
  - This change might lead to structure changes and RBR changes
  - In Denmark and Sweden, all the production is using production type normal
- Retailer of minor Production Unit valid after Go-Live date must have valid Retailer Balance Responsibility (RBR) for production in the MGA where the PU is located
- In two balance model there needs to be a valid RBR for consumption in the MGA where the PU is located so in some cases there needs to be done adjustments
- eSett has identified three different scenarios:
  - Valid RBR for consumption and production (same BRP)
    - As valid RBR exist no changes needed
  - Only valid RBR for consumption
    - BRP needs to create a new RBR for production
  - Valid RBR for consumption and production (different BRPs)
    - eSett will contact the market participants and the correct changes will be done in co-operation

# Single Balance Model

## Changes and updates in eSett

Agenda

- Where to find information
- Agreements
- Settlement changes
- **Messaging and Data Packages**
- Collaterals during transition period
- Online Service views

# Transition phase reporting

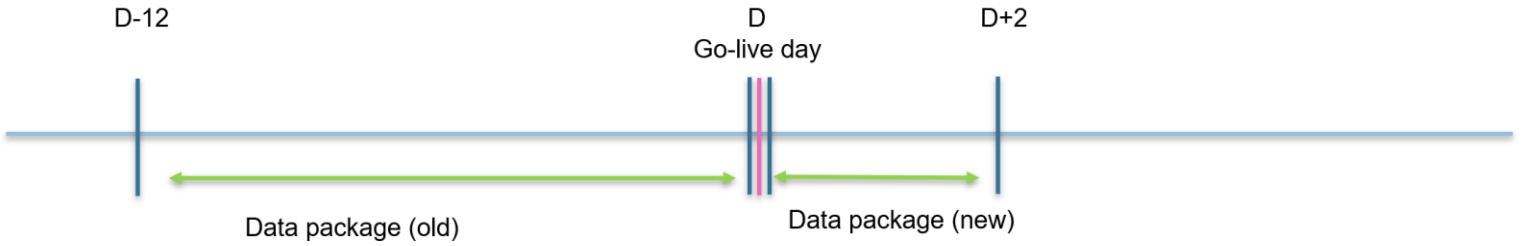
- eSett will start to use the new model after the Single balance model Go-Live date (GL) is introduced
- Delivery days before GL will be calculated using the two balance model (e.g. where there is separate Consumption and Production imbalance)
- Delivery days after GL will be calculated using the single balance and single price model
- eSett will report settlement results based on which model the delivery day is using (before or after GL). During the transition period the settlement results consist of:
  - Two balance model results
  - Single balance results
- Some attributes will be changed in the dataflows due to the Single balance model

| BRS/document | Change | New attributes |
|---|---|---|
| **NBS BRS** | | |
| NEG ESP Energy Account Report Document (EAR) | One new *Business Type* attribute | A17 (Settlement deviation) |
| **NBS BRS for TSO-MO** | | |
| Ediel ECAN Publication Document | Two new *Business Type* attributes | Z74 (Imbalance sales price)<br>Z75 (Imbalance purchase price) |

# Changes to BRPs – number of data package will decrease

- Single balance will reduce the number of dataflows, but the content of the dataflows will be the same
- The changes are the same for Online Service Data packages and Information service in dataflows
- Examples of New Data Packages are available on eSett website (Materials > Single Balance)

| Old Data Package | New Data Package |
|---|---|
| Consumption Imbalance – Preliminary Results | Imbalance – Preliminary Results |
| Production Imbalance - Preliminary Results | |
| Consumption Imbalance – Final Results | Imbalance – Final Results |
| Production Imbalance – Final Results | |
| Consumption Imbalance – Invoiced Results | Imbalance – Invoiced Results |
| Production Imbalance – Invoiced Results | |
| Consumption imbalance per BRP per MBA (volume and amount) | Imbalance per BRP per MBA (Volume and Amount) |
| Production imbalance per BRP per MBA (volume and amount) | |




Example on how data packages will be sent on day D+2 (where D is the Go-live day)

# Single Balance Model

## Changes and updates in eSett

Agenda

- Where to find information
- Agreements
- Settlement changes
- Messaging and Data Packages
- **Collaterals during transition period**
- Online Service views

# Changes to BRPs – Dynamic Collateral model will be adjusted to new model

- Main principle will be kept the same in the dynamic collateral calculation
- Two-balance model related components will be replaced by single balance model components
- The dynamic collateral model will not apply during the transition period, and a manual collateral demand will be applied until there is sufficient data to calculate the dynamic collateral demand according to single balance model components

| Before GL | Transition period | After transition period |
|---|---|---|
| Calculation of Collateral Demand for two-balance model regime will be used | Calculation of Collateral Demand will be paused. Instead, manually set demand will be used (5 full weeks) | Calculation of Collateral Demand for singe balance model regime will be used |

# Collaterals during transition period 1.11.2021 – 5.12.2021

- The collateral demand formula's components, except price component “P”, from week 43 will be applied as a manual collateral demand for the next 5 weeks until there is sufficient data for the collateral formula.
- eSett monitors the prices and will evaluate if a new collateral demand needs to be published to mitigate the counterparty risk.
- A new collateral demand will be published for a BRP if there is a significant increase in imbalance prices.
- The dynamic formula will be in use again on week 49.

$$Collateral\ Requirement = 3 * (S_1 + S_2) + m * (V_1 + V_2) * P$$

**P** = Average of the imbalance prices in the different MBAs during the last seven days for which such prices are available (current day minus 7 to current day minus 1), where the price of each MBA is weighted according to the share of the BRP's total turnover (consumption, PX market sales and bilateral sales) during the last three invoiced weeks that took place in the respective MBA

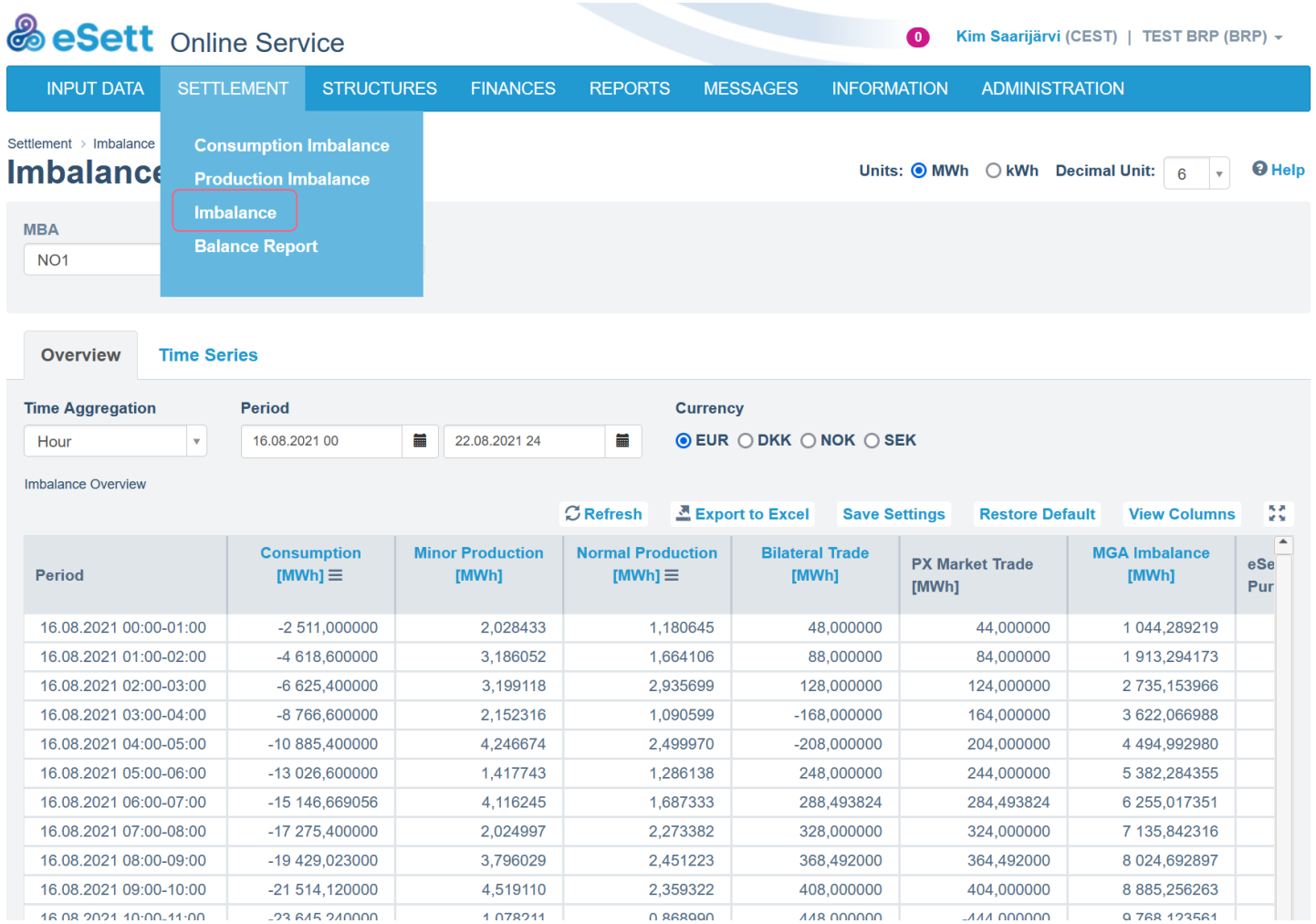
# Single Balance Model

## Changes and updates in eSett

Agenda

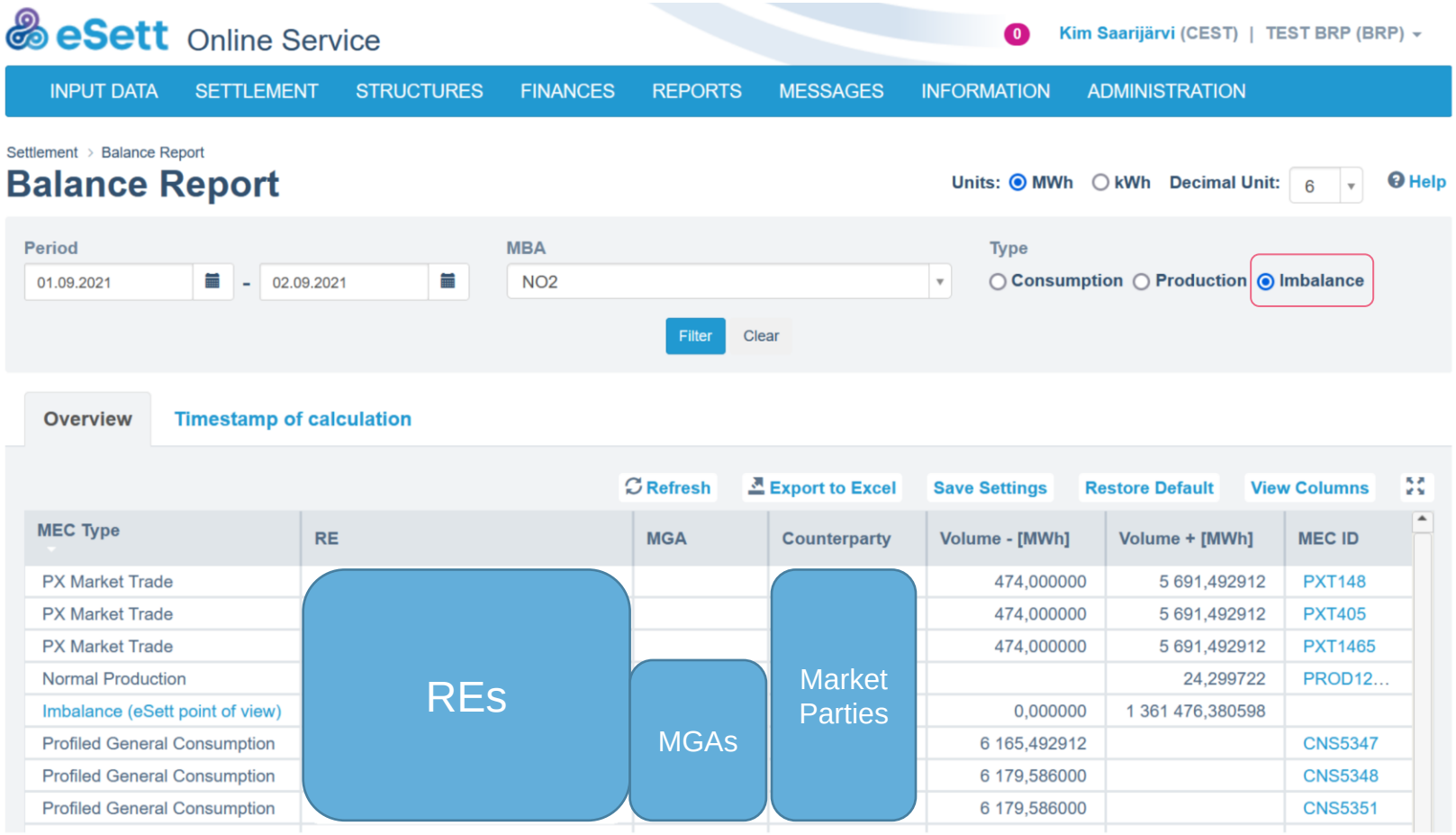
- Where to find information
- Agreements
- Settlement changes
- Messaging and Data Packages
- Collaterals during transition period
- **Online Service views**

# Settlement – Imbalance view




| Period | Consumption [MWh] | Minor Production [MWh] | Normal Production [MWh] | Bilateral Trade [MWh] | PX Market Trade [MWh] | MGA Imbalance [MWh] | eSe Pur |
|---|---|---|---|---|---|---|---|
| 16.08.2021 00:00-01:00 | -2 511,000000 | 2,028433 | 1,180645 | 48,000000 | 44,000000 | 1 044,289219 | |
| 16.08.2021 01:00-02:00 | -4 618,600000 | 3,186052 | 1,664106 | 88,000000 | 84,000000 | 1 913,294173 | |
| 16.08.2021 02:00-03:00 | -6 625,400000 | 3,199118 | 2,935699 | 128,000000 | 124,000000 | 2 735,153966 | |
| 16.08.2021 03:00-04:00 | -8 766,600000 | 2,152316 | 1,090599 | -168,000000 | 164,000000 | 3 622,066988 | |
| 16.08.2021 04:00-05:00 | -10 885,400000 | 4,246674 | 2,499970 | -208,000000 | 204,000000 | 4 494,992980 | |
| 16.08.2021 05:00-06:00 | -13 026,600000 | 1,417743 | 1,286138 | 248,000000 | 244,000000 | 5 382,284355 | |
| 16.08.2021 06:00-07:00 | -15 146,669056 | 4,116245 | 1,687333 | 288,493824 | 284,493824 | 6 255,017351 | |
| 16.08.2021 07:00-08:00 | -17 275,400000 | 2,024997 | 2,273382 | 328,000000 | 324,000000 | 7 135,842316 | |
| 16.08.2021 08:00-09:00 | -19 429,023000 | 3,796029 | 2,451223 | 368,492000 | 364,492000 | 8 024,692897 | |
| 16.08.2021 09:00-10:00 | -21 514,120000 | 4,519110 | 2,359322 | 408,000000 | 404,000000 | 8 885,256263 | |
| 16.08.2021 10:00-11:00 | -23 645,240000 | 1,078211 | 0,868990 | 448,000000 | -444,000000 | 9 768,123561 | |

# Settlement – Balance Report view



# Finance – Invoice Report view

eSett Online Service

0 Kim Saarijärvi (CEST) | TEST BRP (BRP)

INPUT DATA | SETTLEMENT | STRUCTURES | FINANCES | REPORTS | MESSAGES | INFORMATION | ADMINISTRATION

Finances › Invoicing Report

## Invoicing Report

Help

Time Aggregation: Week / Month

Period: 02.08.2021 – 08.08.2021

Country: Norway

Refresh | Export to Excel

### TEST BRP - BS0000

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Total Quantity** | 53 704 524,447 | **Total Amount [EUR]** | 0 | **Total Amount [DKK]** | 0 | **Total Amount [NOK]** | 4 257 225 597,34 | **Total Amount [SEK]** | 0 |

Production Type: SES (Service Sale (SES))

| Product | Quantity | Amount excl. VAT (EUR) | Amount excl. VAT (DKK) | Amount excl. VAT (NOK) | Amount excl. VAT (SEK) |
|---|---|---|---|---|---|
| BRP Volume Fee | 21 079 250,594 | 0 | 0 | 6 956 152,7 | 0 |
| BRP Weekly Fee | 1 | 0 | 0 | 330 | 0 |
| BRP Imbalance Fee | 16 312 636,427 | 0 | 0 | 71 775 600,28 | 0 |
| **Total** | **37 391 888,020** | **0** | **0** | **78 732 082,98** | **0** |

Production Type: ITS (Item Sale (ITS))

| Product | Quantity | Amount excl. VAT (EUR) | Amount excl. VAT (DKK) | Amount excl. VAT (NOK) | Amount excl. VAT (SEK) |
|---|---|---|---|---|---|
| BRP Sold Power Transaction, Production Imbalance | 0 | 0 | 0 | 0 | 0 |
| BRP Sold Power Transaction, Consumption Imbalance | 0 | 0 | 0 | 0 | 0 |
| BRP Sold Imbalance | 16 312 636,427 | 0 | 0 | 4 178 493 514,36 | 0 |
| BRP Sold Hour Change Regulation, Production Imbalance | 0 | 0 | 0 | 0 | 0 |

In case you need more information, please contact eSett Customer Service

- Create Customer Service Request on www.esett.com/contact
- Send email to settlement@esett.com
- Call +358 10 5018500

eSett

WE SETTLE, TOGETHER!