
FINGRID
Reserve Market and Balance Service Days 2026
Balance Service Day
29.4.2026
Unofficial translation
15.27
fingrid.fi
FINGRID
836 MW
639 MW
18 MW
News

OPENING OF THE EVENT

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29.4.2026

Pasi Lintunen, Fingrid Oyj

Welcome to the Balance Service Day!

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Balance Services

Fingrid is responsible for maintaining a continuous power balance in Finland and for the nation-wide imbalance settlement.

- Fingrid is responsible for maintaining the national power balance at all times by covering the imbalances of the balance responsible parties
- Imbalance deviations are prepared for by purchasing reserve capacity, and imbalances are managed with energy activated from the reserve energy market
- The imbalance settlement examines the imbalances between the balance responsible parties and Fingrid and other transmission system operators and allocates the costs accordingly.
- The service is being developed based on customer feedback.

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Agenda for the Day

Opening of the Event

9:15–9:45 Welcome to the Balance Service Day!
Pasi Lintunen, Balance Service Manager, Fingrid Oyj

Overview of the Past Year and Changes in the Balance Service

9:45–10:15 The Past Year in Numbers
Jukka Kakkonen, Expert, Fingrid Oyj

10:15–11:00 Terms and Conditions of the Balance Service and Their Changes
Heikki Raatikainen, Expert, Fingrid Oyj

11:00–12:00 Lunch Break

Forecasting Capability and the Importance of Forecasts in Electricity Markets

12:00–12:20 The Need for mFRR Regulation and Fingrid's Forecasting Capability
Väinö Valli, Specialist, Fingrid Oyj

12:20–12:40 Pilot Project on the Utilization of Consumption Plans
Veli-Petteri Liedes, Specialist, Fingrid Oyj

12:40–13:00 Rapid Power Changes in Production, Consumption, and Energy Storage
Väinö Valli, Specialist, Fingrid Oyj

13:00–14:00 Customer Presentations – The Importance of Forecasts for the Balance Responsible Party
Mika Jantunen, Technology Director, Ilmatar Energy Oy
Antti Rautiainen, Risk Management Manager, Pohjois-Karjalan Sähkö Oy

14:00–14:45 Coffee Break

Current Topics and Development Outlook

14:45–15:15 eSett's Current Overview
Olli Vainikainen, Specialist, eSett Oy

15:15–15:45 Development of Balance Settlement in Datahub
Marko Juslin, Expert, Fingrid Datahub Oy

15:45–16:00 Summary of the Day
Maria Joki-Pesola, Unit Manager, Fingrid Oyj

16:00–18:00 Afterwork

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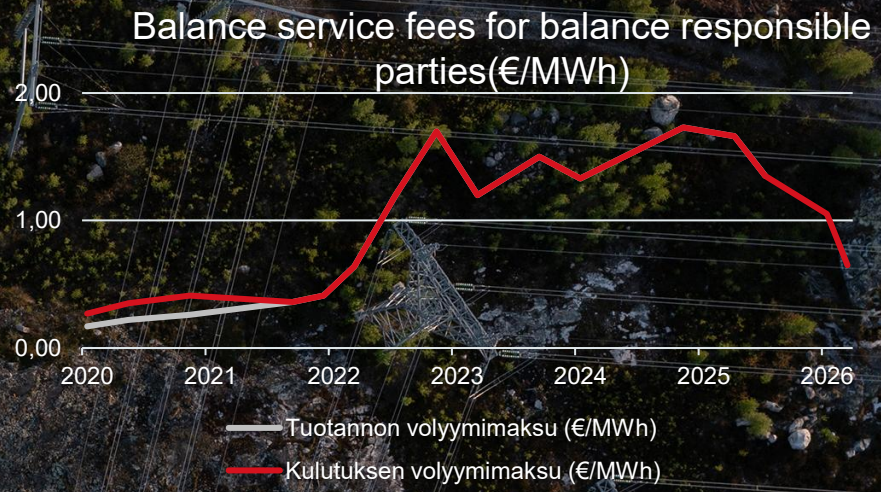
Balance Services today

Balance service at the heart of the electricity system

- ✓ **Balance between balance responsible parties and the electricity system**
- ✓ **Imbalance settlement**

Net sales 2025 (2024)

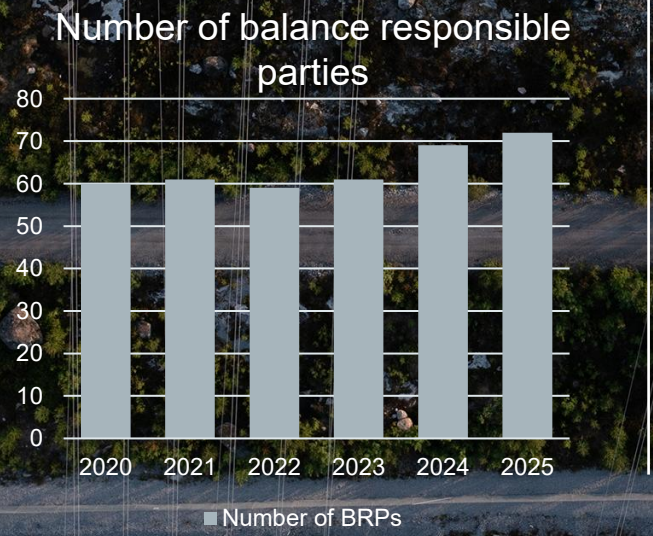
506 M€ (664 M€)



Direct access to open delivery

Uniform and fair rules

High level of service



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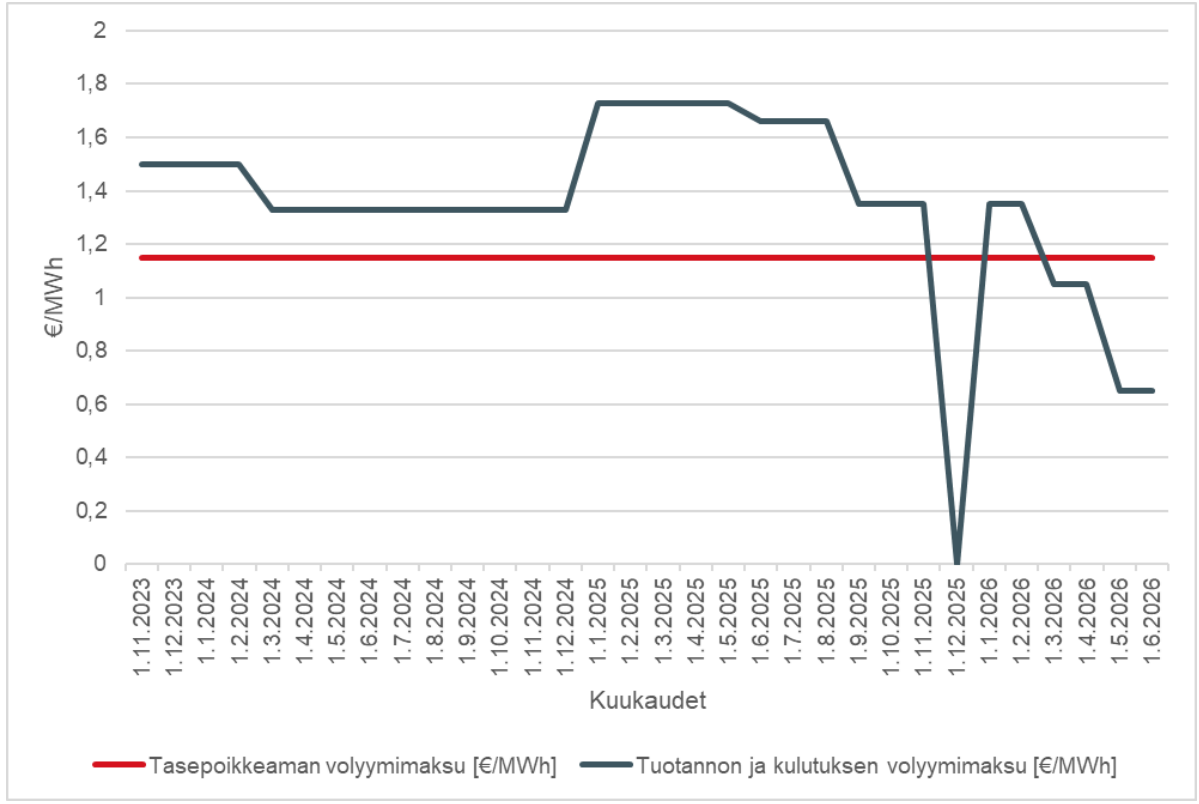
What fees are charged from balance responsible parties?

- Fixed weekly fee
- Volume fee for the balance responsible party actual consumption and production during the imbalance settlement period
- Imbalance fee for imbalances in the imbalance settlement period of the balance responsible party

€/vko / €/MWh	1.5.2026	1.3.2026	1.9.2025	1.6.2025	1.1.2025	1.3.2024	1.11.2023
Fixed weekly fee	30	30	30	30	30	30	30
Volume fee for production and consumption	0,65	1,05	1,35	1,66	1,73	1,33	1,50
Imbalance fee	1,15	1,15	1,15	1,15	1,15	1,15	1,15



- In December 2025, no volume fee for production and consumption was invoiced

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What is covered by balance service fees?

Reserve costs included in the balance service

- mFRR (Manual frequency restoration reserve)
- aFRR (Automatic Frequency Restoration Reserve)
- FCR-N (Frequency Containment Reserve for Normal Operation)
- Fingrid's reserve power plants

Other operating expenses of balance service

- Costs arising from the settlement of imbalances by balance responsible parties
- Imbalance costs, including imbalance trading with neighbouring countries and reserve energy transactions

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How customers see the balance service?

Good and functional

- ✓ *The basic imbalance settlement process is considered reliable and the service is generally satisfied.*
- ✓ *eSetti's service is good, and no significant development proposals have been made for operating methods or services.*
- ✓ *Communication on balance service fees and their changes is clear.*
- ✓ *The roles between Fingrid and eSett is clear to most*

Room for development and improvement

- ✓ *Preliminary imbalance settlement data should be made available more quickly or imbalance settlement should be speeded up, as the information is reliably available earlier than before.*
- ✓ *The subsequent corrections to imbalance settlement calculations have caused significant additional work for market participants.*
- ✓ *The delays in the publication of the imbalance prices of the have caused challenges for parties.*
- ✓ *At the turn of the month, fast invoicing from their own balance service customers is important to customers; Delays in invoicing information delay customer invoicing.*
- ✓ *The price formation of imbalance deviations is perceived as difficult to understand.*

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Why it's important to keep your contact information up to date?

- The contact information of the balance responsible parties is maintained and needed for various needs
  - Communication related to the balance service agreement and imbalance settlement (e.g. changes in balance service fees, webinars, general communications)
  - Matters related to collateral and its sufficiency
  - Informing about electricity shortages
  - 24/7 availability for balance sheet activations etc.

- According to the balance service agreement, the balance responsible party has the obligation to maintain their own contact information
- eSett maintains the contact information of the balance responsible parties, and it has been agreed with eSett that the contact information of all balance responsible parties will be checked and updated in real time. The contact information will also be updated in Fingrid's customer information system.

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Thank you

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OVERVIEW OF THE PAST YEAR AND CHANGES IN THE BALANCE SERVICE

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Jukka Kakkonen, Fingrid Oyj

The Past Year in Numbers

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Balance Service

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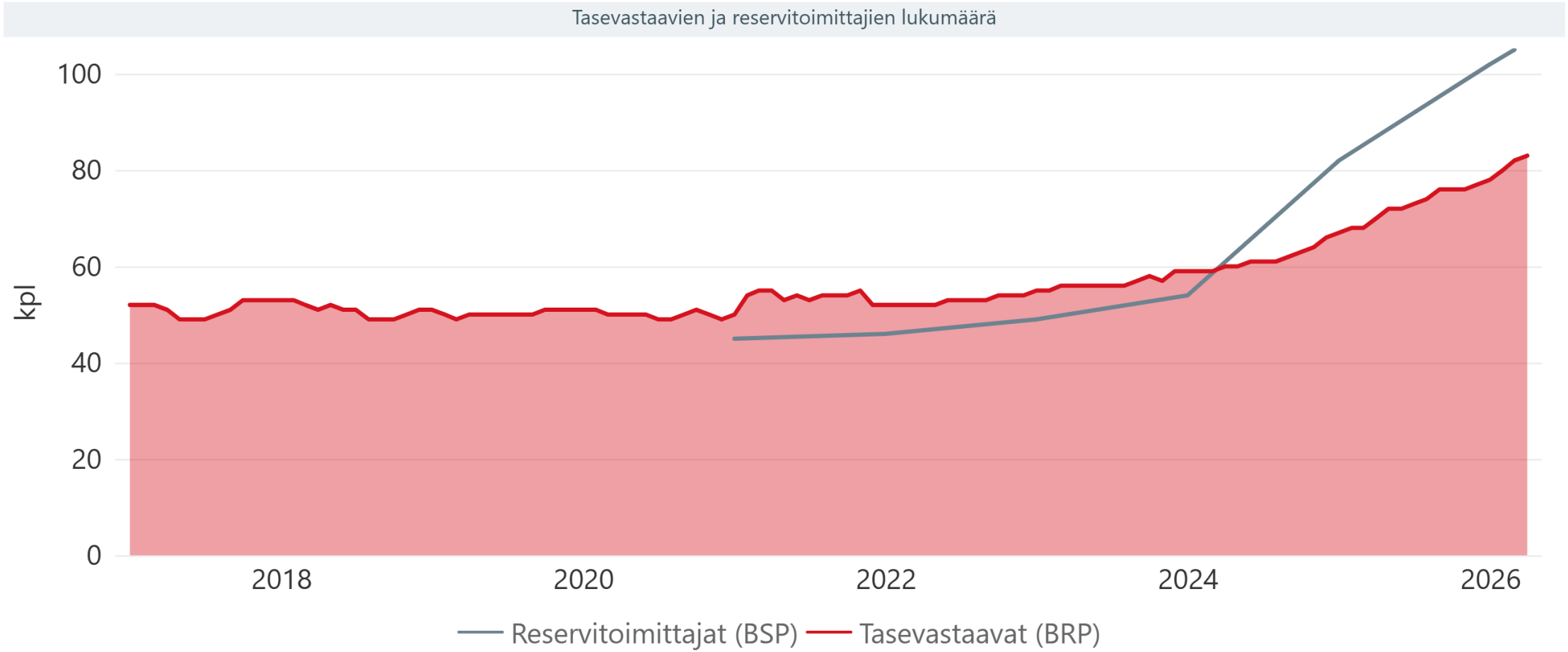
New balance responsible parties have entered the market



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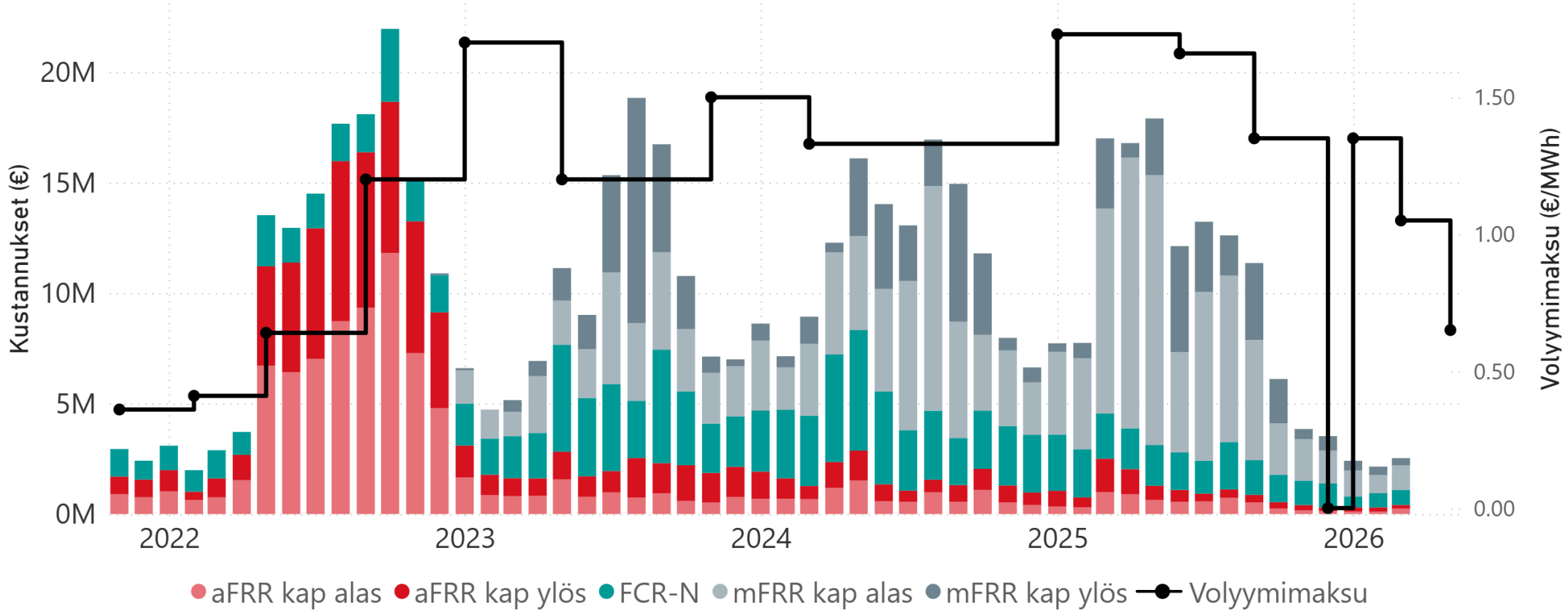
The volume fee for production and consumption has been reduced following a decrease in reserve capacity procurement costs

Tasepalvelumaksuilla katettavien reservikapasiteettien hankintakustannukset sekä tuotannon ja kulutuksen volyymimaksun kehitys



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Imbalances

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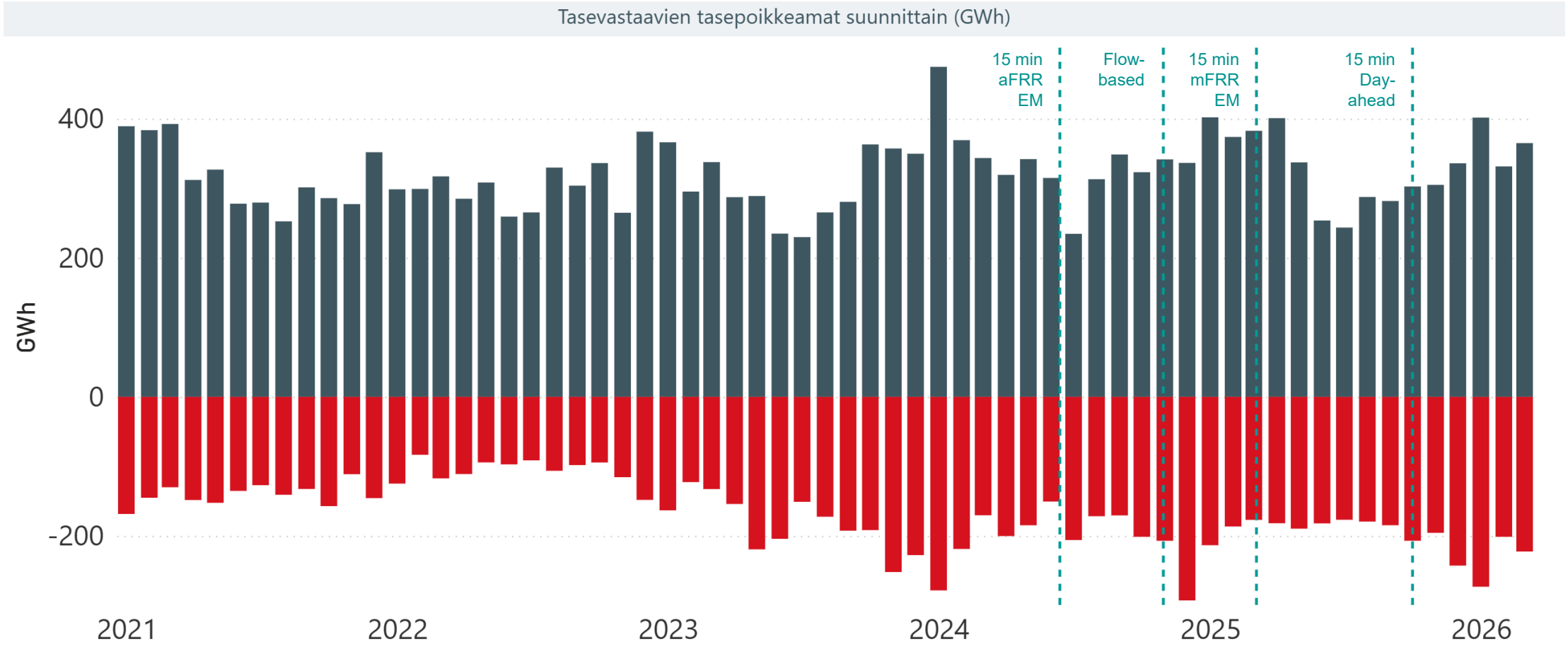
The surplus of balance responsible parties has remained stable, while the deficit has increased since 2023



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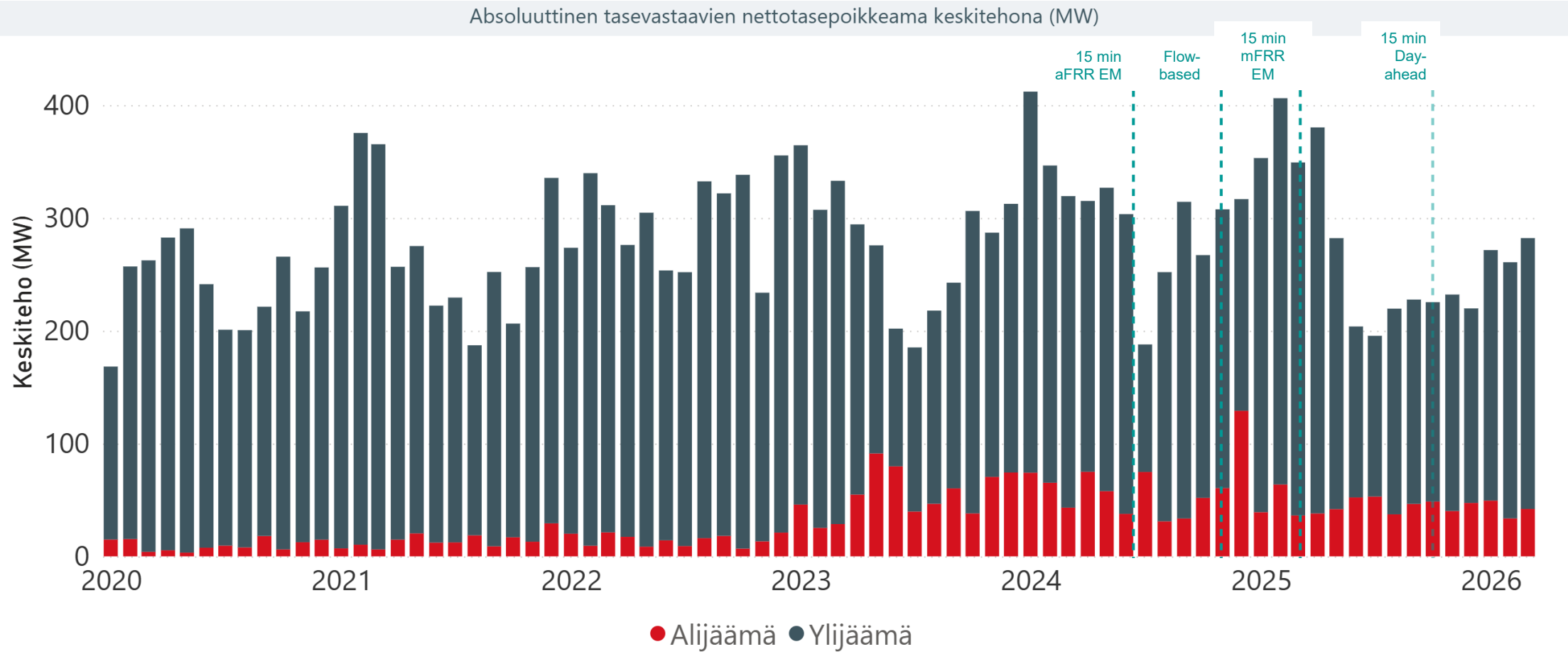
Net imbalance volumes have decreased slightly



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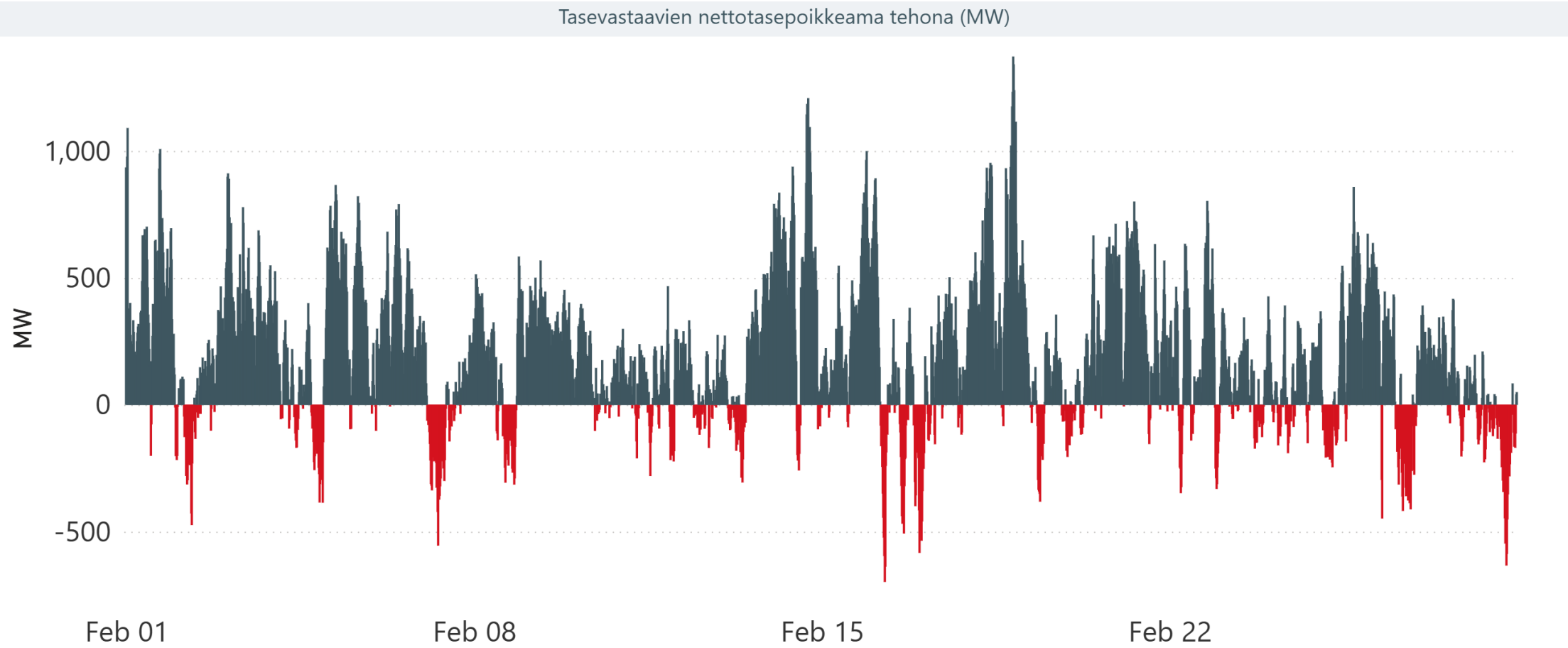
The net imbalance varies and can be significant at times



Tasepoikkeamat varttitasolla

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Balance Management

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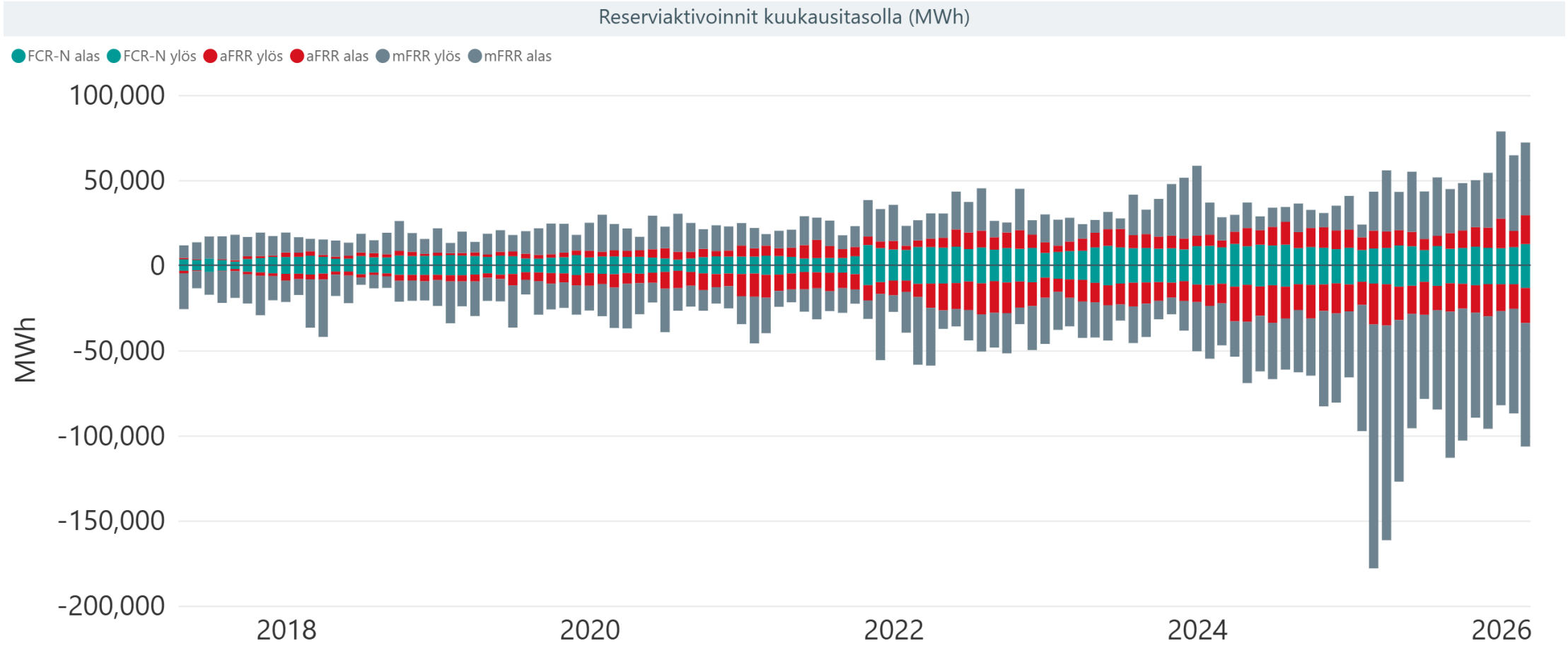
Reserve activation volumes have increased



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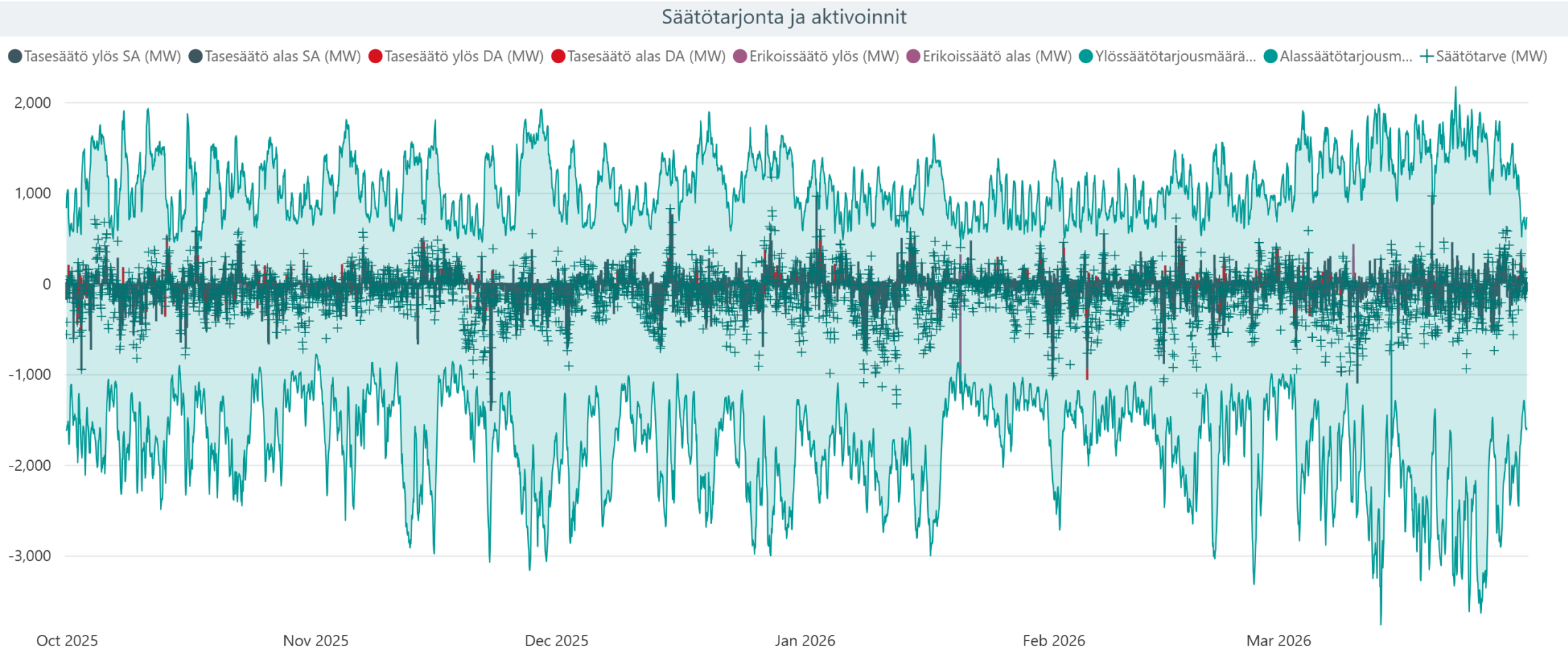
mFRR energy supply has increased, but there are occasional shortages



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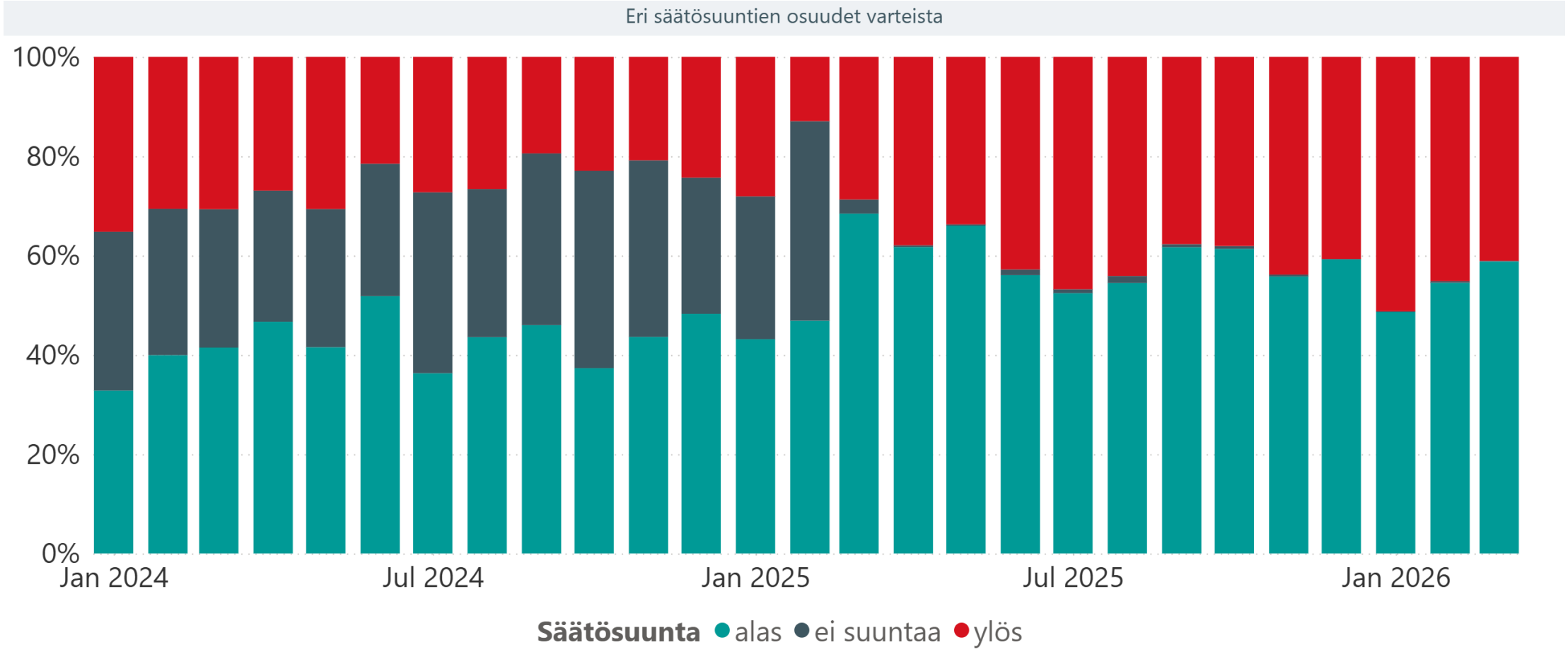
Net surpluses materialize as down regulation



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Imbalance Price and Costs

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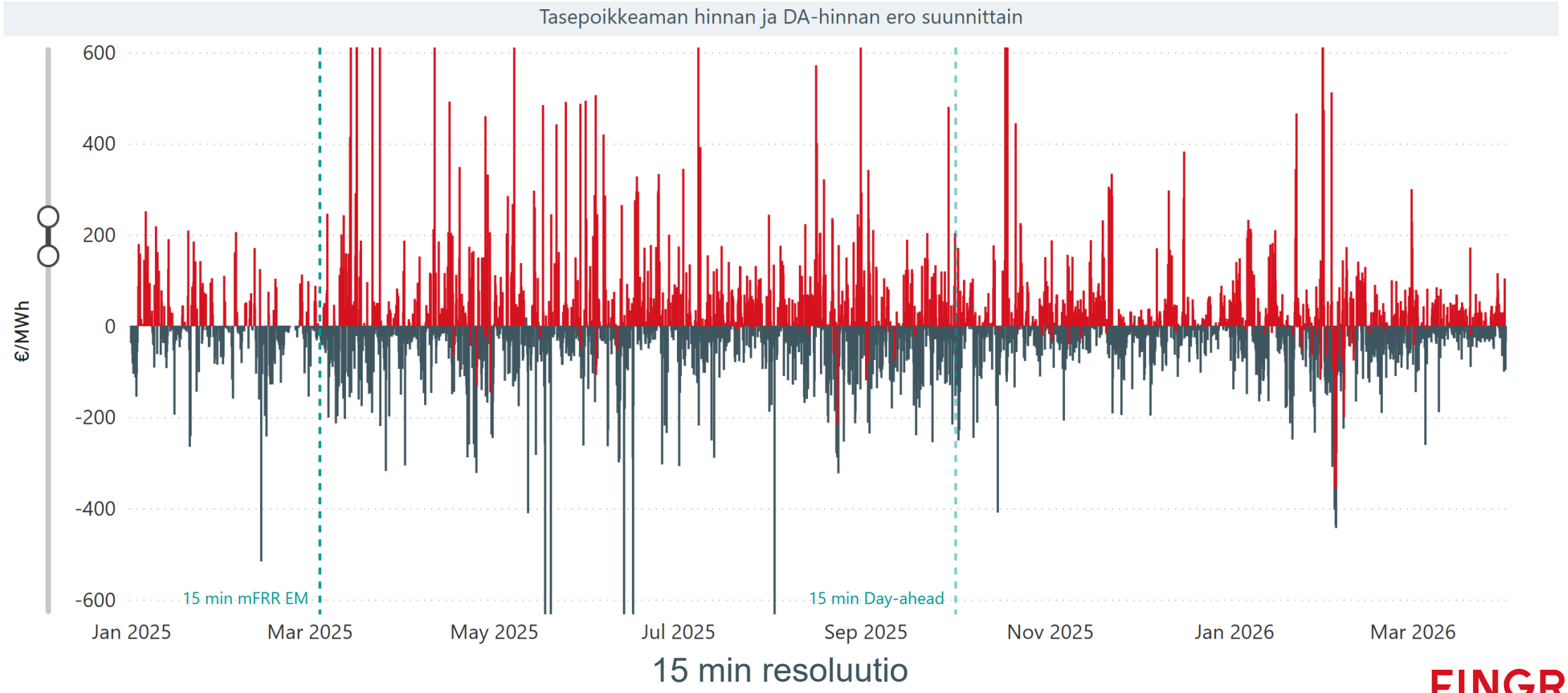
Imbalance price spikes have become less frequent



DA = Day-ahead

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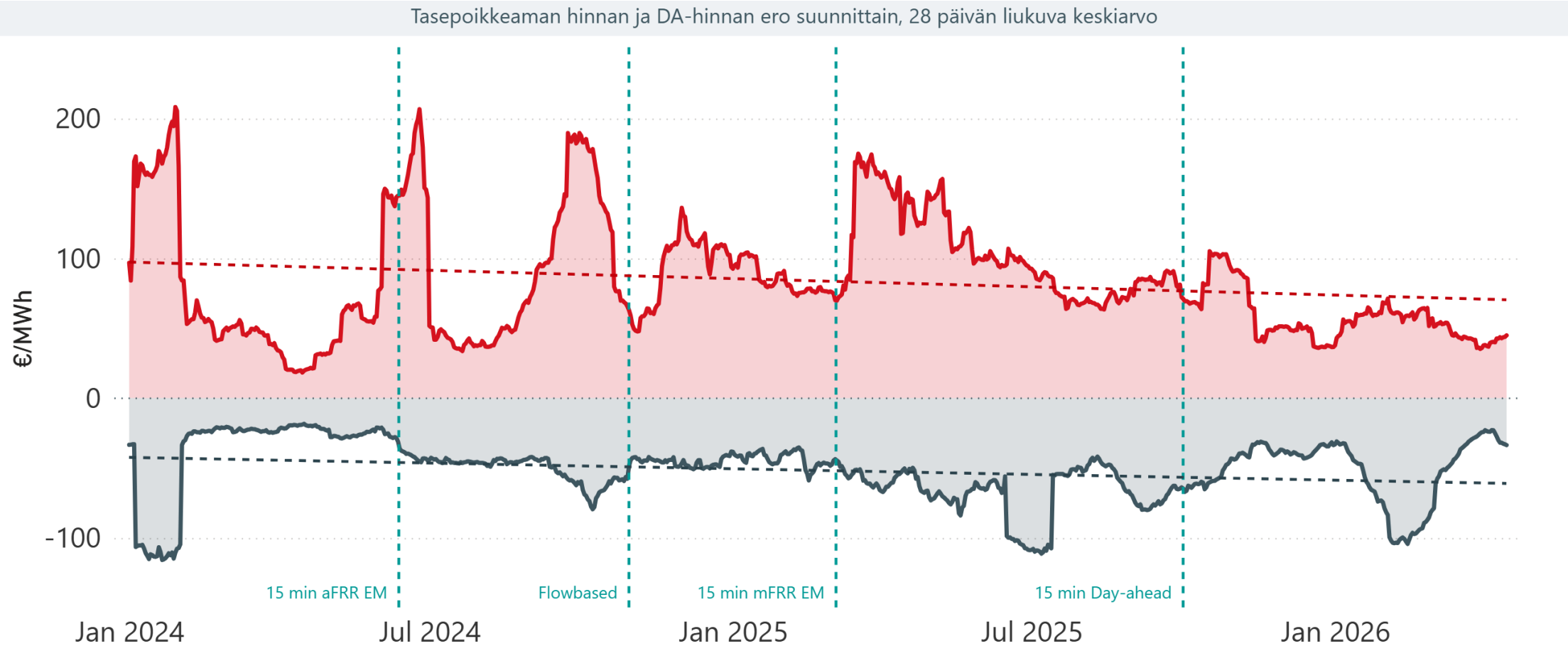
Imbalance price trend is positive in up regulation and negative in down regulation



DA = Day-ahead

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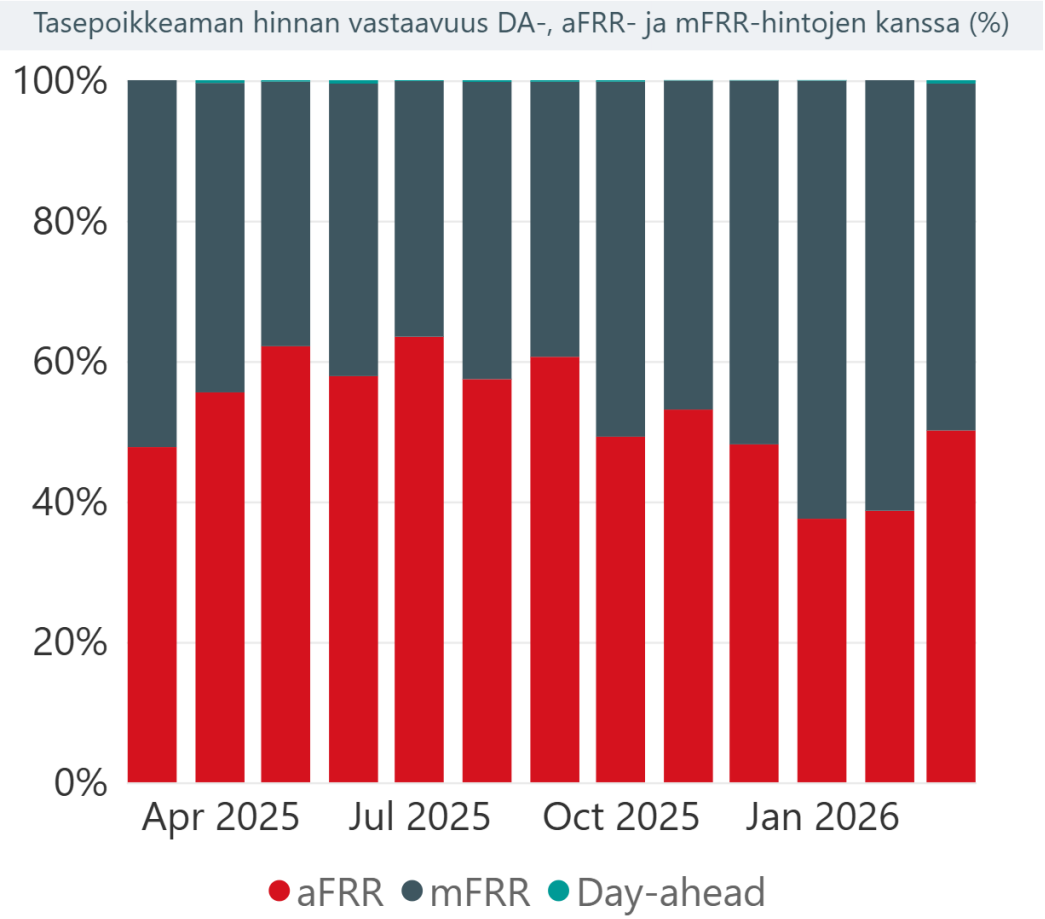
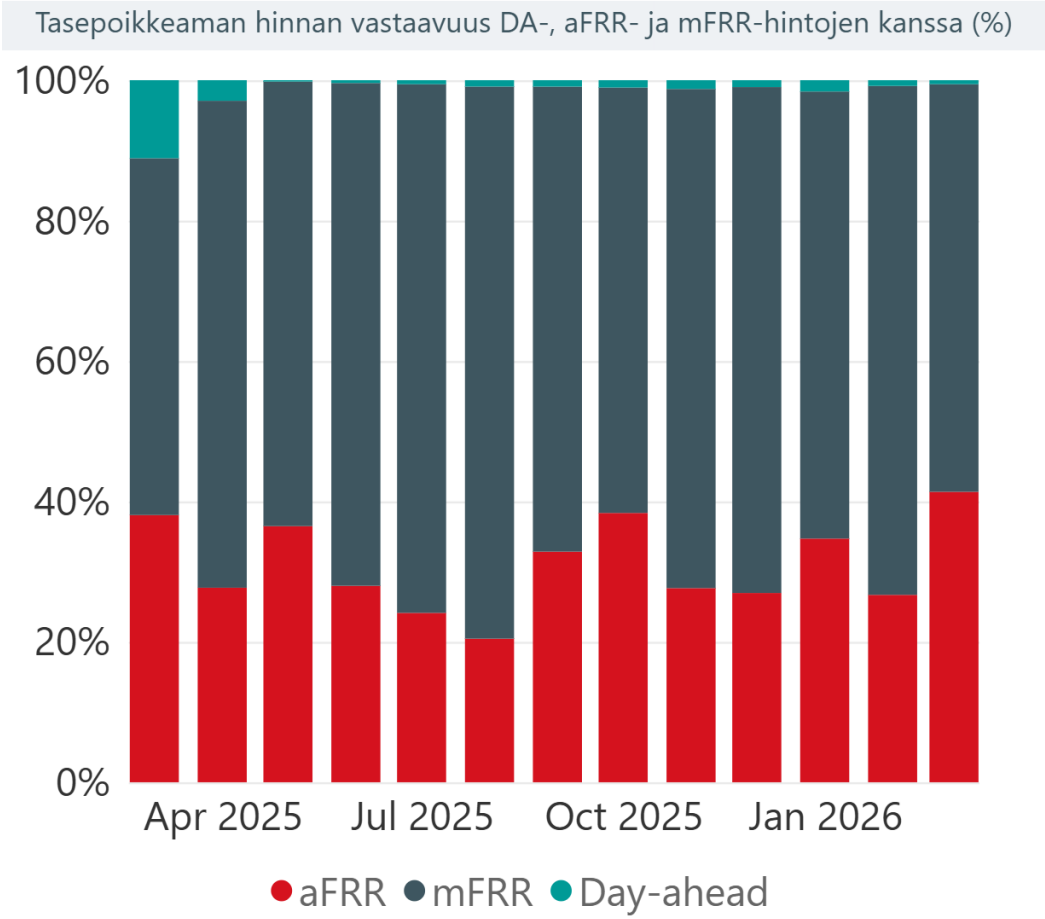
The imbalance price is determined either by the aFRR price or the mFRR price



Down regulation



Up regulation

DA = Day-ahead

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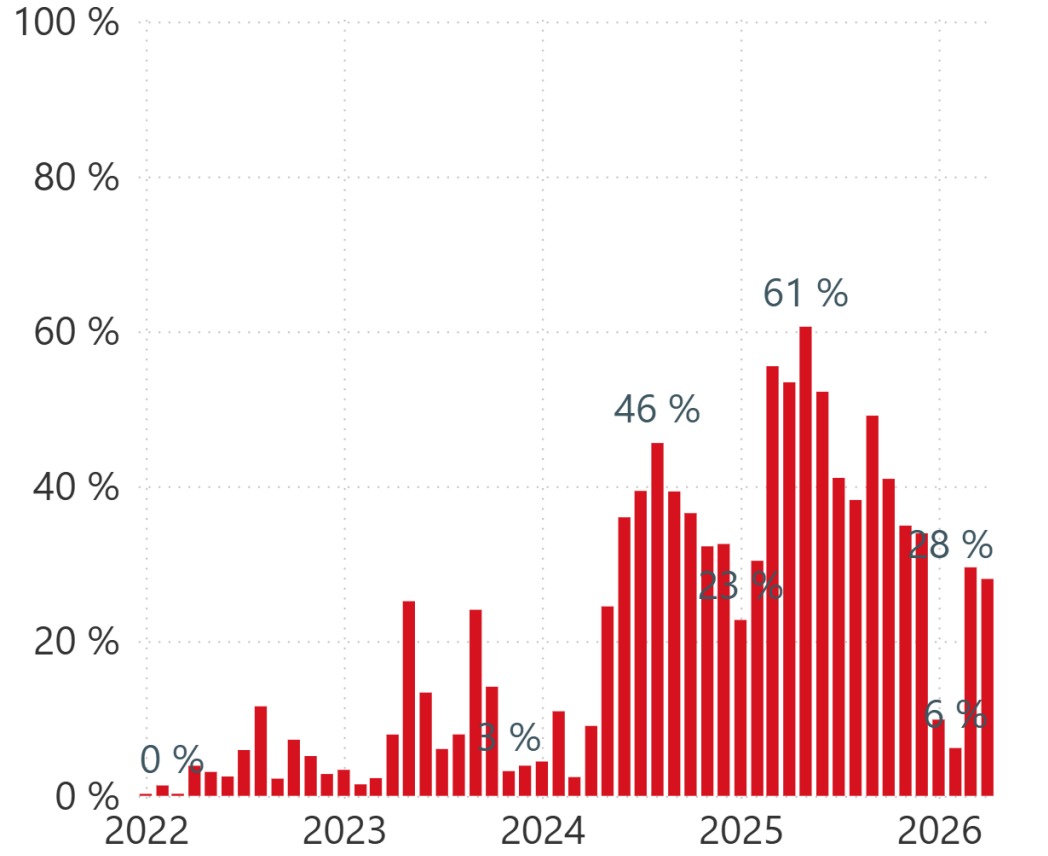
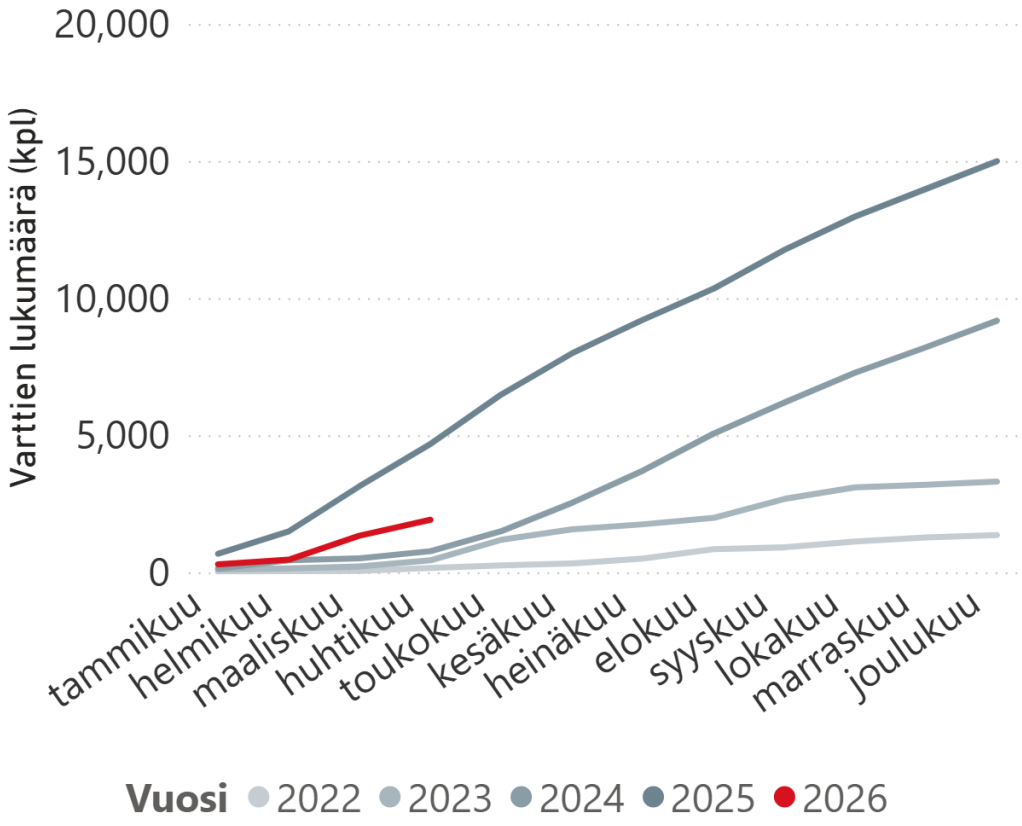
Surpluses now frequently come at a cost

Negatiivisen tasepoikkeaman hinnan varttien osuus



Negatiivisen tasepoikkeaman hinnan varttien lukumäärän kertymä (vuodessa 35040 varttia)



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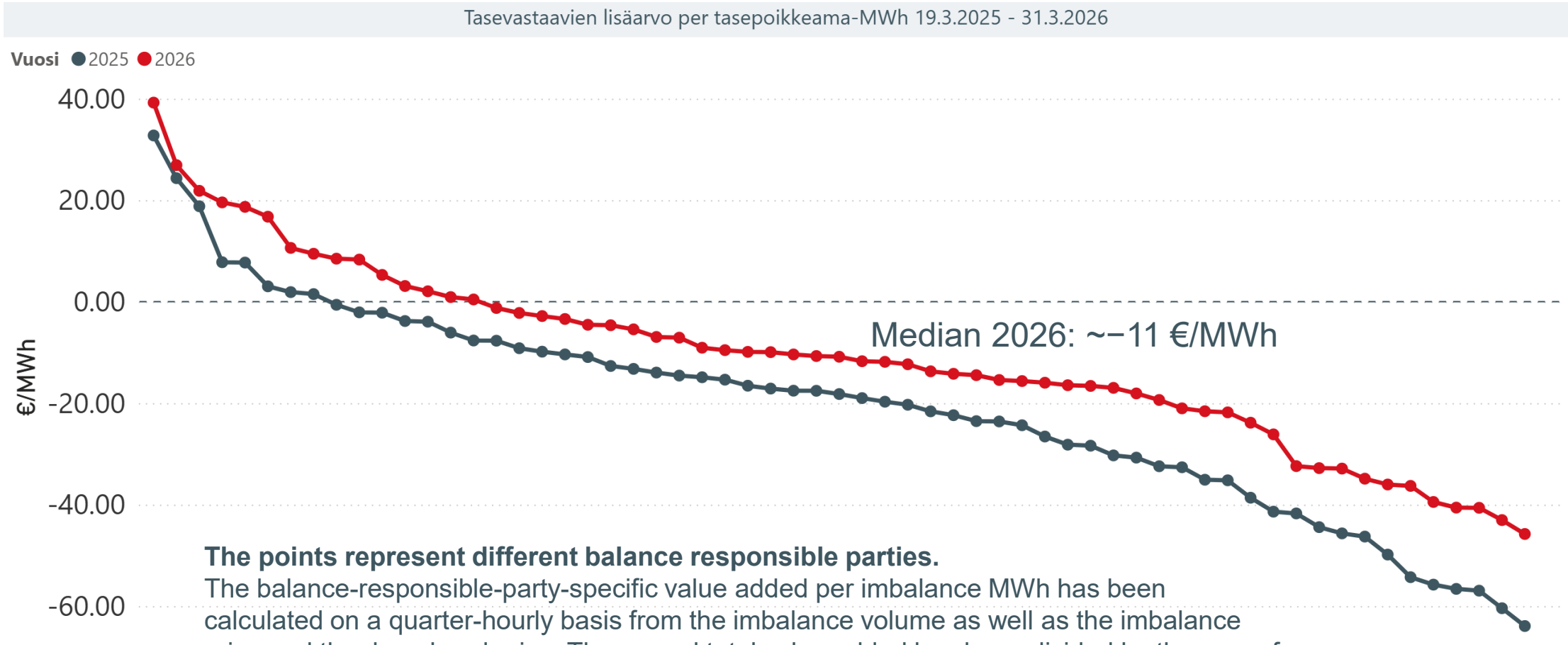
Significant differences in imbalance costs across balance responsible parties



The points represent different balance responsible parties.
The balance-responsible-party-specific value added per imbalance MWh has been calculated on a quarter-hourly basis from the imbalance volume as well as the imbalance price and the day-ahead price. The annual total value added has been divided by the sum of the absolute imbalance volumes of the balance responsible party. On a quarter-hourly level, positive value added consists of electricity sold at prices higher than the day-ahead price and electricity purchased at prices lower than the day-ahead price

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Terms and Conditions of the Balance Service and Their Changes

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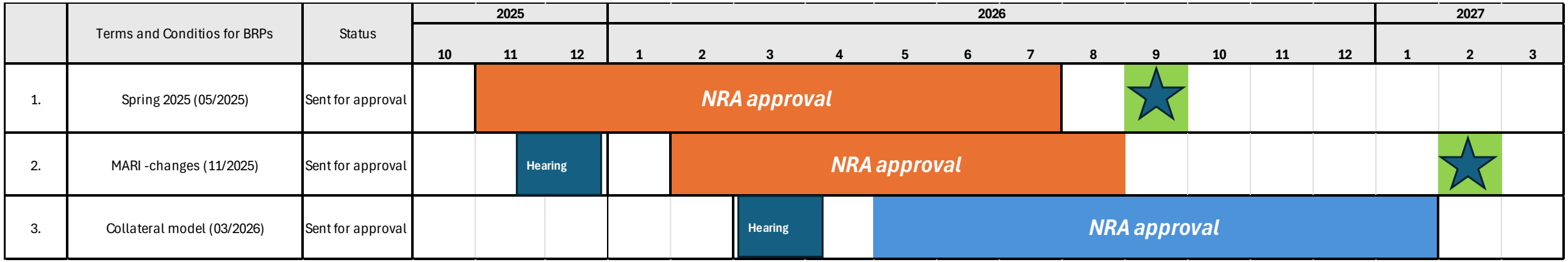
Overview of ongoing terms and conditions processes for balance responsible parties

Terms and conditions for balance responsible parties

1. Changes to the terms and conditions for balance responsible parties 5/2025 (Spring 2025)
2. Changes to the terms and conditions for balance responsible parties 11/2025 (MARI changes)
3. Changes to the terms and conditions for balance responsible parties 3/2026 (Collateral model and energy storage)



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Changes to the terms and conditions for balance responsible parties 5/2025

Appendix 1, Part 2: General terms and conditions of imbalance settlement

- Increase of the minimum collateral requirement to 200 000 euros
- Small-scale generation removed from imbalance settlement
- Added the treatment of energy storage in imbalance settlement

Appendix 2: Payment components and determination of charges

- Added compensation model for independent aggregation paid to the balance responsible party

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Changes to the terms and conditions for balance responsible parties 11/2025

Appendix 1, Part 1: General terms for balance management:

- Submission of production plans 25 min before the start of the imbalance settlement period

Appendix 2: Payment components and determination of fees:

- Dominating regulation direction by bidding zone and based on the satisfied demand
- The incentive component is discontinued
- The value of avoided activation is based either on the price of scheduled activation of mFRR or on Finland’s local mFRR bids

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Changes to Balance Responsible Parties' Terms 3/2026

Appendix 1, Part 2: General terms for imbalance settlement

- The collateral model for balance responsible parties has been updated
- Treatment of charging energy for energy storage as consumption (in connection with other production)
- Establishment of metering grid areas for production and batteries

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Balance Responsible Parties Terms and conditions 3/2026 – Changes related to energy storages

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Charging of energy storage when connected to other production

Current treatment

- If an energy storage system is connected to a production unit and the production unit generates energy, charging the energy storage system can be treated as the production unit's own-consumption. Charging and discharging of the energy storage system can be netted against the production unit's generation.

Tax Authority guidance

- The Tax Authority has specified that own-consumption electricity is specifically the electricity consumed within the energy storage own consumption equipment, and not all electricity charged into the energy storage system.

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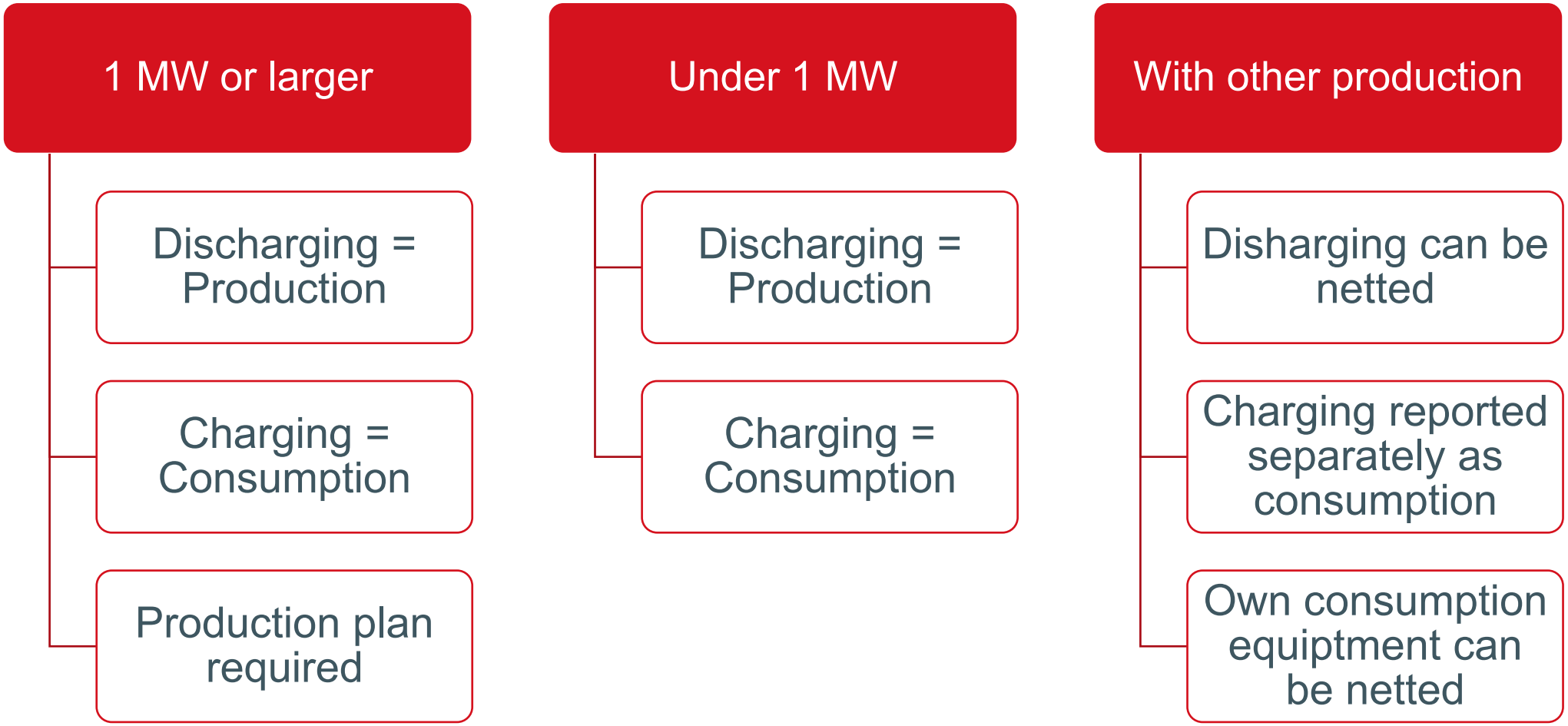
Settlement of energy storages



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Establishing a metering grid area

1 MW and larger production and energy storage systems

- Handled primarily as a production unit within the metering area to which the connection is made.
- The parties may jointly agree to establish a separate metering area

Clarification to the previous BRP condition entry: A separate metering area does not have to be established for a power plant.

Exception: The power plant is connected directly to the national transmission grid

Balance Responsible Parties Terms and conditions 3/2026 – Collateral model

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Why is the collateral model being developed?

Market has changed	• Price volatility has increased; collateral must react faster
Coverage gaps	• Current model may not match actual counterparty risk (over/under-collateral)
Negative prices	• More frequent; current calculation zeros them out and understates risk
Production	• Obligation to include production in the collateral formula

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Core idea of the new collateral model

Up-to-date data	• Collateral uses more recent final settlement data to track risk better
Production reduces risk	• Model treats production as a risk-reducing factor
Negative prices included	• Risk also exists with negative prices

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Balance Responsible Parties Terms and conditions 3/2026 – Collateral formula

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Current and proposed new collateral formula

Part 1 Part 2

Current: $Collateral\ requirement = 3 * (S_1 + S_2) + m * (V_1 + V_2) * P$

New: $\text{Collateral requirement} = S_{payments} + S_{deviation} + m * (V_{consumption} + V_{sales} - V_{production}) * P_{average\text{-}price}$

Part 1 Part 2

- **Part 1** of the collateral formula provides for incurred but not yet paid costs related to balance responsible parties. These include imbalance settlement costs as well as volume fees for the balance responsible parties' production and consumption and for the imbalance volume.

- **Part 2** of the collateral formula provides estimation for a situation where the balance responsible party's electricity procurement stops and the balance responsible party relies on balancing energy for one day.

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Risk position of balance responsible parties' payments

$$\text{Collateral requirement} = S_{payments} + S_{deviation} + m * (V_{consumption} + V_{sales} - V_{production}) * P_{average\text{-}price}$$

Current:

- Based on average of three invoiced weeks
- Delay in the response

New:

- Final imbalance settlement data and payments closer to the calculation time
- Better alignment with actual outstanding receivables

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How are imbalance costs calculated in the new model?

$$\text{Collateral requirement} = S_{\text{payments}} + S_{\text{deviation}} + m * (V_{\text{consumption}} + V_{\text{sales}} - V_{\text{production}}) * P_{\text{average-price}}$$

- **Current:**
  - Based on three invoiced weeks
  - Delay in the response
- **New:**
  - Calculated in two steps
  - Actual costs for purchases and sales (8 vrk)
  - An estimate is calculated for the open period (13 days)
  - Better alignment with actual outstanding receivables

} Unpaid costs for 3 weeks

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Adjustable production has a greater impact as a factor reducing the collateral requirement

$$\text{Collateral requirement} = S_{payments} + S_{deviation} + m * (V_{consumption} + V_{sales} - V_{production}) * P_{average\text{-}price}$$

Production flexibility is considered by examining the day-ahead market price achieved by the balance responsible party's production

1. On the collateral calculation day, the average price for the week under review is calculated
2. For this period, production totals are calculated per 15-minute interval for intervals both below and above the average price
3. Production from intervals below the average price is counted at 25% and from intervals above at 75%.

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Negative prices are taken into account as absolute values

$$\text{Collateral requirement} = S_{\text{payments}} + S_{\text{deviation}} + m * (V_{\text{consumption}} + V_{\text{sales}} - V_{\text{production}}) * P_{\text{average-price}}$$

Current:

- A negative price is treated as zero

New:

- The price is taken into account as an absolute value
- Risk exists regardless of the sign of the price

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Imbalance price changes

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Imbalance price calculation will change on 1 June 2026

Change

mFRR has been activated in the dominating regulation direction:

- The aFRR and mFRR price components are taken into account in the imbalance price calculation on a volume-weighted basis
- The volumes used for weighting are the satisfied aFRR need and energy activated in Finland from mFRR
- If mFRR is activated to opposite direction, the imbalance price is calculated using the current marginal price formula

Estimates of the impacts of the change

- On average, the imbalance price difference from the day-ahead price decreases
- Balance responsible parties' imbalance costs decrease
- Balance responsible parties' collateral requirements decrease slightly
- The share of service income received through Fingrid's balancing energy trading decreases
- The share of service income received via payment components of Fingrid's production and consumption, and imbalance volume fees, increases

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Balance responsible parties’ terms and conditions are being developed to reflect a changing operating environment – Market participants can influence this by actively participating!
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FORECASTING CAPABILITY AND THE IMPORTANCE OF FORECASTS IN ELECTRICITY MARKETS

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29.4.2026

Väinö Valli, Fingrid Oyj

The Need for mFRR Regulation and Fingrid's Forecasting Capability

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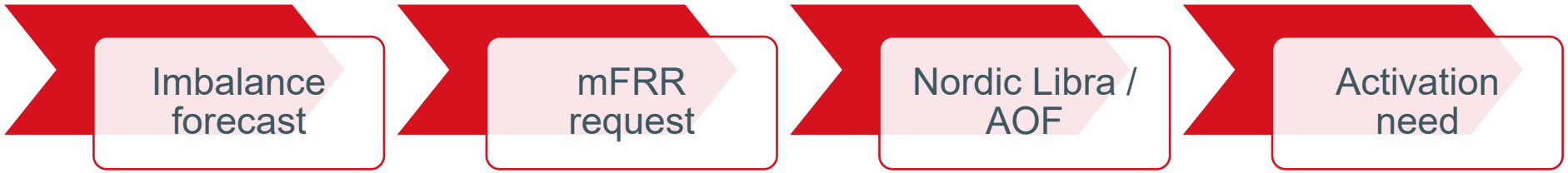
Imbalance forecast is used for determining mFRR demand

- In the determination of mFRR demand, power system imbalance is forecasted for the next quarter-hour (15–30 minutes ahead)
- *Imbalance forecast is used for determining the mFRR demand*
- mFRR request is formed by taking the average of three 5-minute forecast values for each quarter-hour
- The mFRR request is sent to the Nordic market platform (Nordic Libra), where the algorithm (AOF) determines how much of the mFRR demand is activated in each bidding zone



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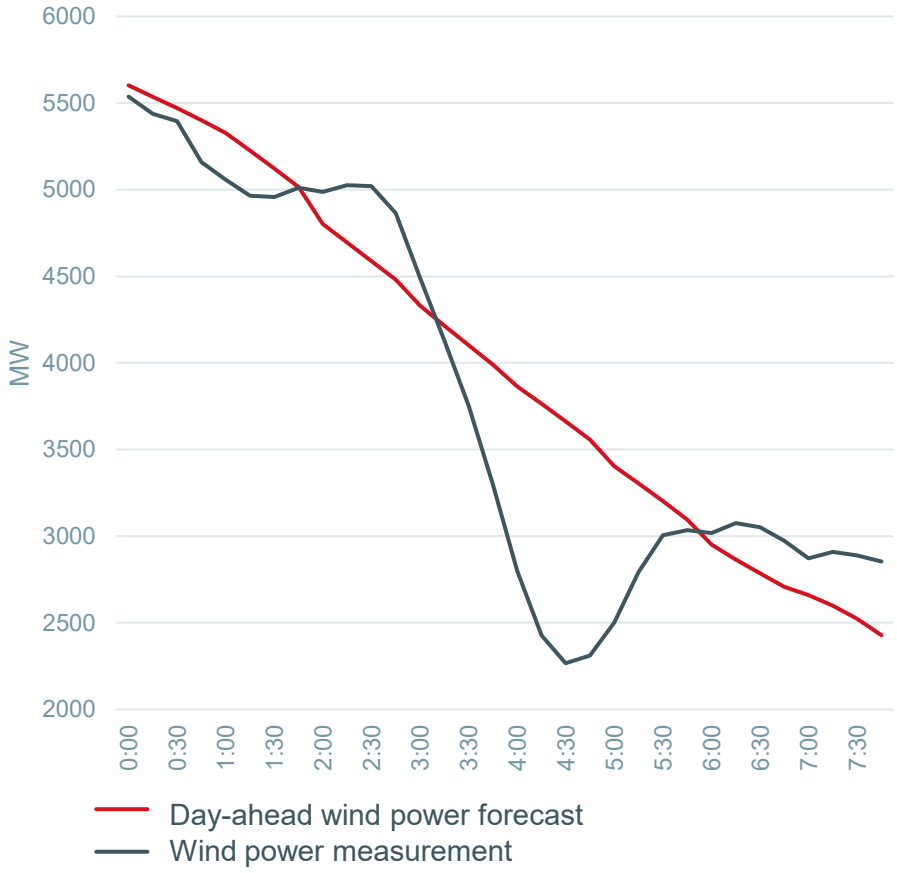
The market actors' ability to forecast their production and consumption affects the system imbalance

Factors affecting the system imbalance

- Time of the day, day of the week, time of the year
- Weather
- Power system faults

ACE OL describes the control area imbalance before reserve activations

- Calculated from the difference between measured and planned flow for Finland where the impact of activated reserves is subtracted
- Important reference: "how much mFRR should have been activated"



ACE OL = Area Control Error Open Loop

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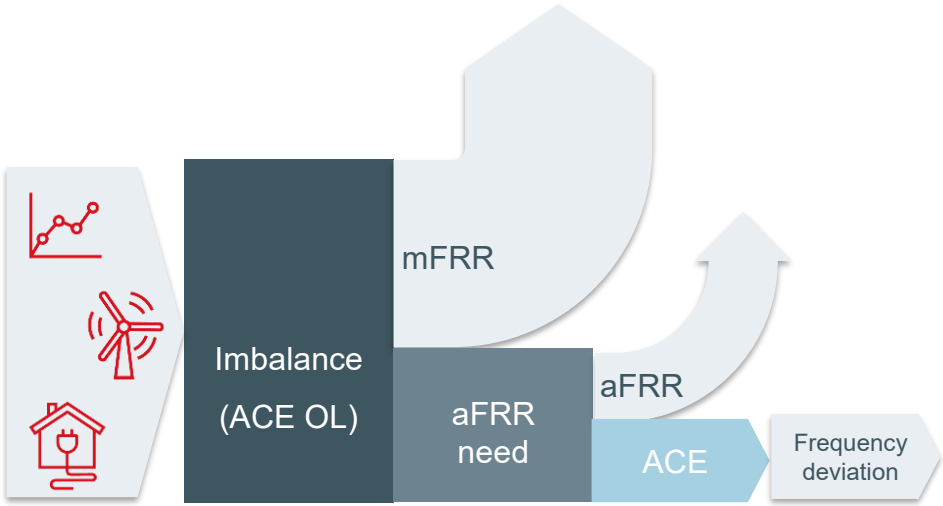
Why the quality of the imbalance forecast is important?

- Imbalance forecast determines how much mFRR is activated to cover the imbalance
- Imbalance forecast error impacts the balancing of the whole power system
- Imbalance forecast accuracy affects:
  - Volume and price of mFRR activation
  - Volume and price of aFRR activation
  - Imbalance price
  - Frequency quality and FCR activation



The better the imbalance forecast, the more cost-effective it is to balance the power system

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Challenges of imbalance forecasting

Quick changes in the imbalance

- Difficult to forecast by statistical methods
- Expensive errors

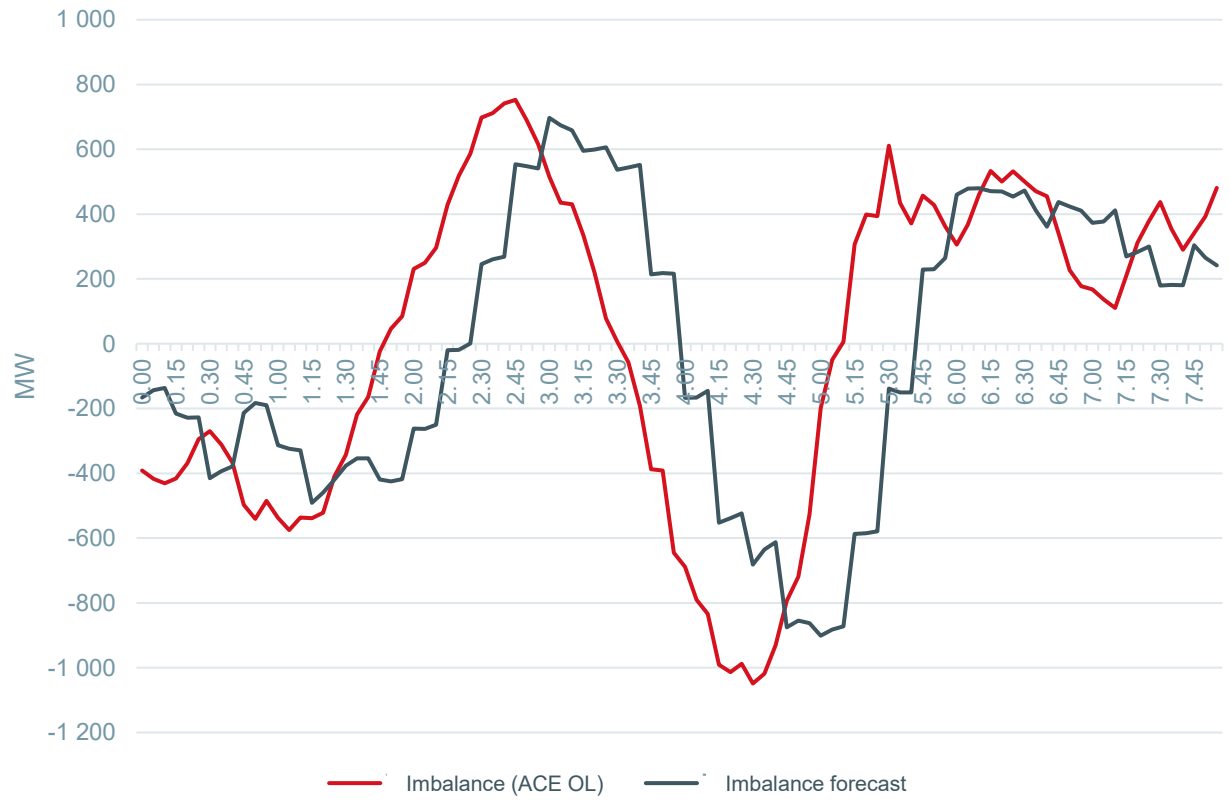
Imbalance noise

- The system is varying
- Everything cannot be forecasted→ better to average than to try to catch all spikes in the imbalance

Market behavior

- Market is based on forecasts
- Market reacts to price signals

Data quality



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Fingrid develops the imbalance forecast

Original forecast (2020)

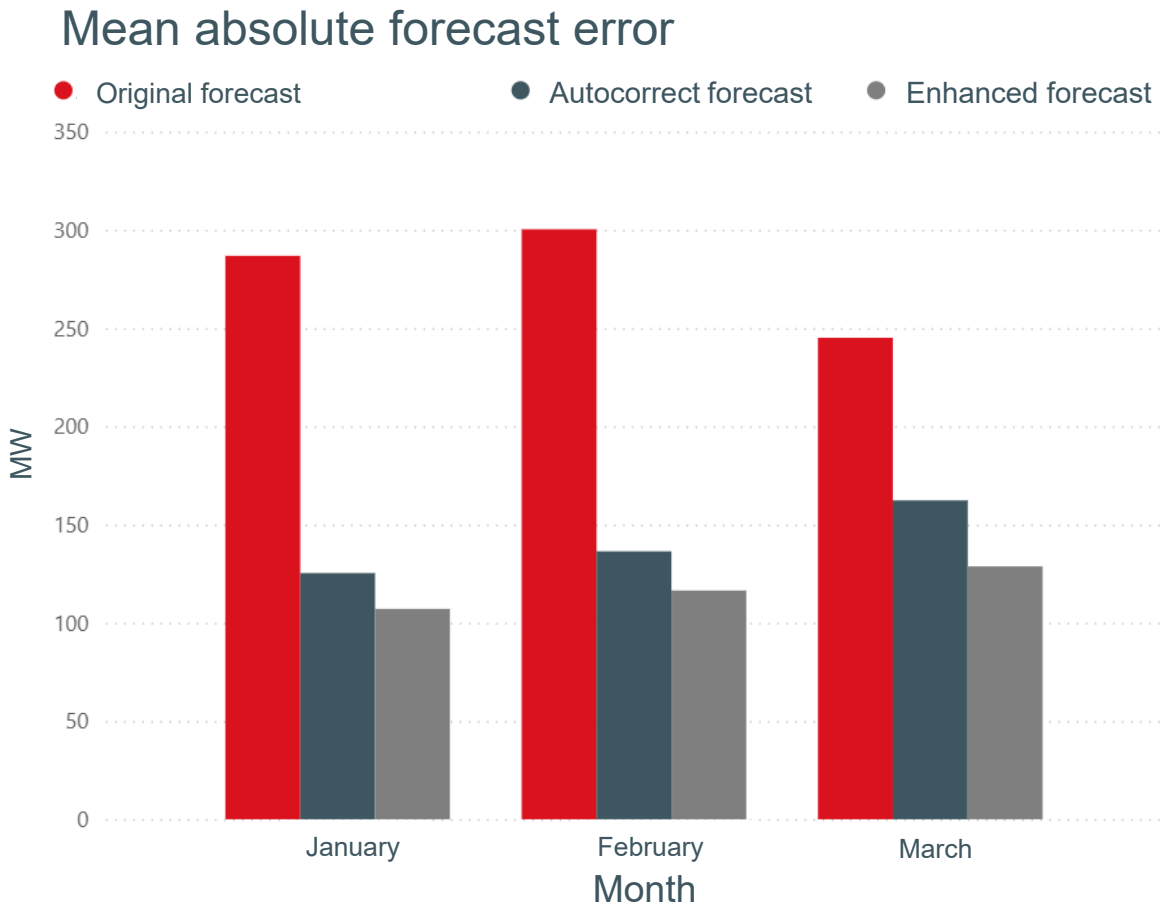
- Imbalance = consumption + production + planned flows
- Prone to errors

“Autocorrect” forecast (2021)

- Corrects the original forecast by feeding back the forecast error

“Enhanced” forecast (2025)

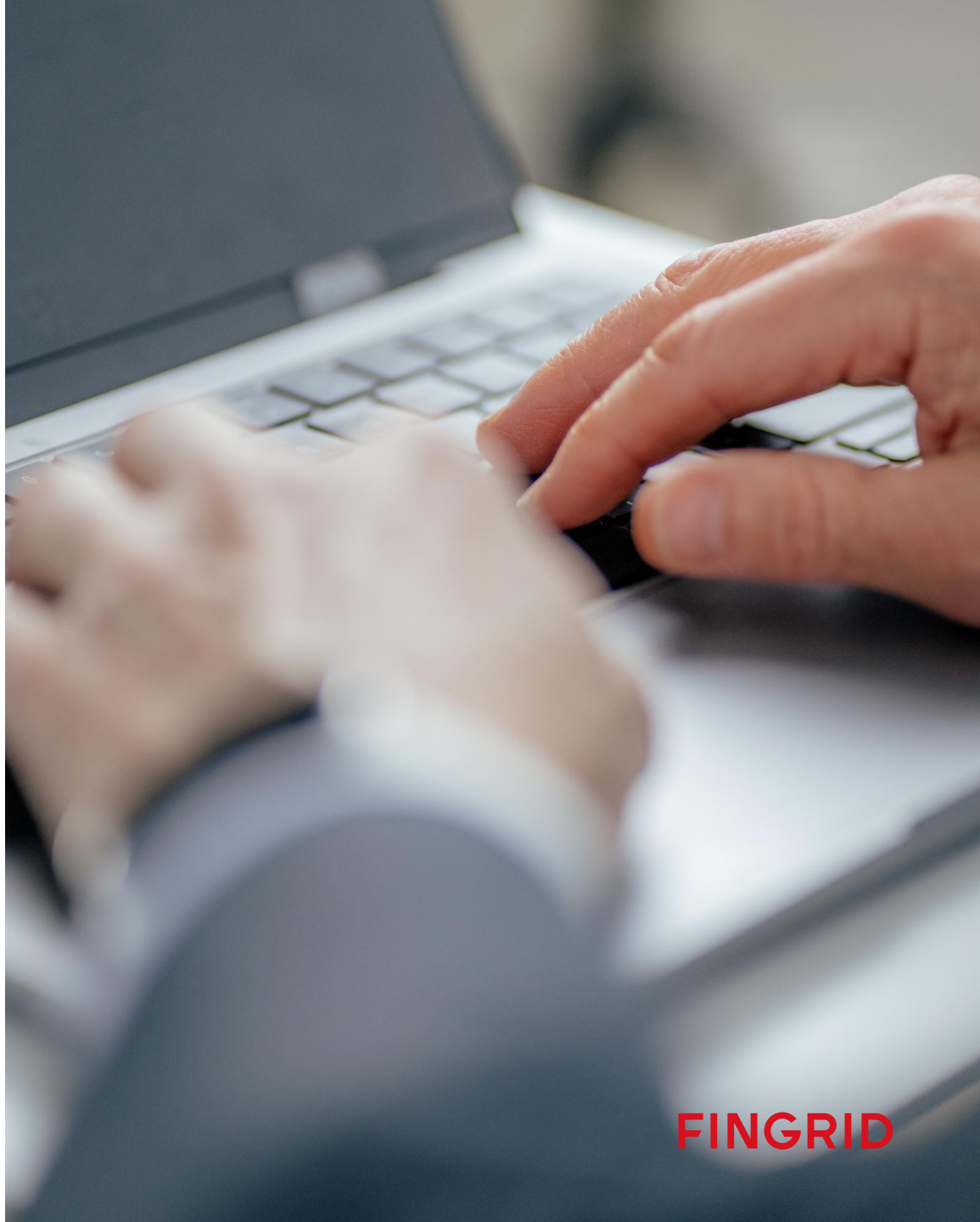
- Current independent model, that has been trained with the actual imbalance and the original forecast
- Gives weight to near history



FINGRID

Forecast development continues

- Fingrid develops the imbalance forecast
  - Understanding of forecasts and the power system in the same house
  - Continuous work
- MARI connection
  - In MARI, the gate closure time for submitting the mFRR request is 10 minutes before the forecasted quarter-hour (compared to 15 minutes currently) → more accurate forecast
- **Market participants still bear significant responsibility for the imbalance error**
  - Invest in forecast development and active management of own balance!



Thank you

FINGRID

29.4.2026

Veli-Petteri Liedes, Fingrid Oyj

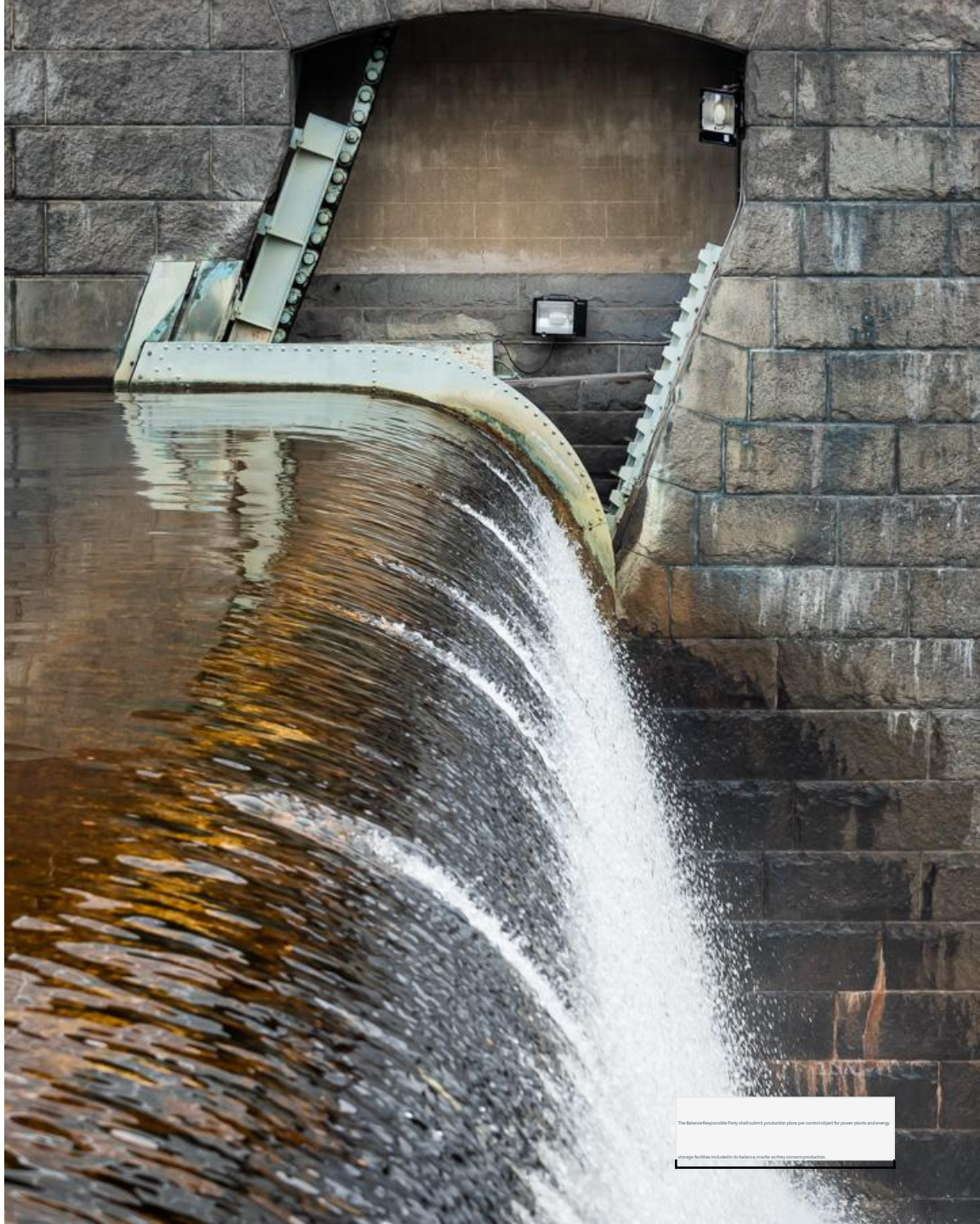
Pilot Project on the Utilization of Consumption Plans

fingrid.screen.io/tase26

FINGRID

About Production Plans

- The Balance Responsible Party shall submit production plans per control object for power plants and energy storage facilities included in its balance, insofar as they concern production.
- A separate production plan shall be prepared for each power plant with a capacity of at least 1 MW.
  - Power plants with a capacity of less than 10 MW may be combined into the same control object.
- Production plans for the following day shall be submitted no later than 17:30.
- If the plans change, they shall be updated no later than 25 minutes before the start of the respective imbalance settlement period
- If intraday trading has taken place after time qh-25, the BRP shall update the production plan after the trade has been concluded.

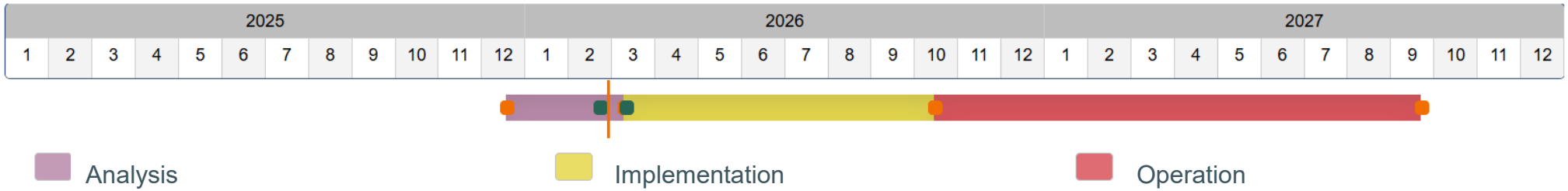


Why Consumption Plans?

- Production and consumption vary more than before depending on prices and weather conditions
- Price-responsive consumption increases uncertainty in consumption forecasting and, consequently, in balance and congestion management.
- District heating was previously produced using CHP, which has now largely been replaced by electric boilers and has therefore shifted from production to consumption.
- Consumption plans would improve Fingrid's own consumption forecasts and thereby the balancing activation → **The objective is to integrate consumption plans into the balancing process.**

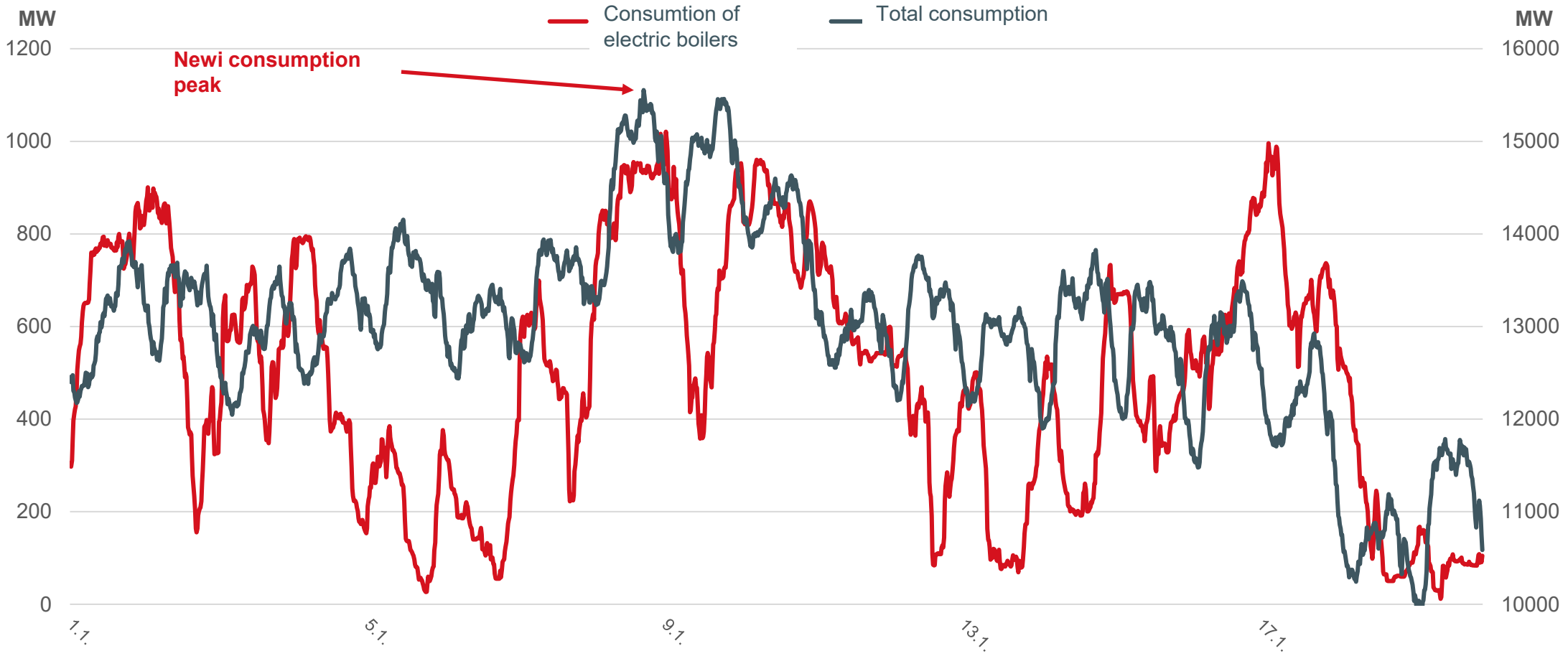
Integrating Consumption Plans to part of the balancing process

- The use of consumption plans will be tested through a pilot project.
- Consumption plans will be collected from electric boilers with a capacity exceeding 10 MW.
- The pilot will last six months and take place in winter 2026–2027.
- Consumption plans will be submitted to the same system as production plans, following the same process.
- We have already attracted a good number of participants, but it is still possible to join
- The quality of the consumption plans will be monitored
  - In addition, it will be assessed whether the imbalance error forecast was more accurate with consumption plans than without them.
  - Based on the pilot experiences, the expansion of the use of consumption plans will be evaluated.



FINGRID

Example of variation of Electric Boilers' consumption from January 2026



FINGRID

Consumption plan message format

- During the pilot, the same time limits will be applied to the submission of consumption plans as for production plans.
- Compared to production plans, submission by Balance Responsible Parties requires updating a few fields in the ECP/EDX data exchange.
  - Recipient: SERVICE-FI-15MPP → **SERVICE-FI-15MCP**
  - Service name: FI-15MPP → **FI-15MCP**
  - Message type: PP-ERRP-PTA17-DTA14-15MIN → **CP-ERRP-PTA17-DTA14-15MIN**
- As regards the structure of the planning messages, the only deviation from production plans is a change to the BusinessType field: BusinessType v="A01”→ **BusinessType v="A04"**
- We will send detailed instructions on the required updates to data exchange and message formats to the Balance Responsible Parties that have expressed interest in participating in the pilot.

FINGRID

Participate in the Consumption Plans Pilot!

- By participating in the pilot, BRPs have the opportunity to contribute to the development of imbalance deviation forecasting
- A successful pilot requires active participation from BRPs
- For questions related to the submission of consumption plans, feel free to email kulutussuunnitelmat@fingrid.fi

FINGRID

Thank you

FINGRID

29.4.2026

Väinö Valli, Fingrid Oyj

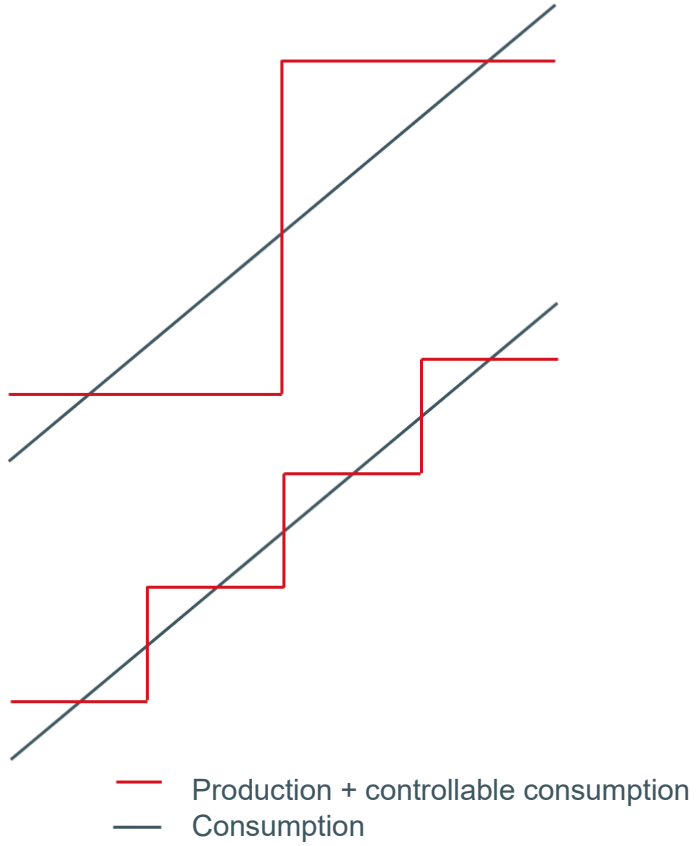
Rapid Power Changes in Production, Consumption, and Energy Storage

fingrid.screen.io/tase26

FINGRID

Rapid power changes at the market time unit shift create regulation needs

- Rapid changes in production and controllable consumption at the shift of the market time unit (MTU) challenge the maintenance of power system balance and can cause temporary imbalances
- **Deterministic imbalances** arise when production or controllable consumption ramp rapidly at the MTU change, while other power consumption changes more slowly
- The introduction of 15-minute markets has reduced deterministic imbalances
- **Price-driven power changes at the MTU change can still be significant and pose challenges to the power system**



FINGRID

Changes in the electricity system challenge the management of power balance

The share of fast-regulating production and consumption will increase significantly in the coming years

- According to Fingrid's estimate, by 2030 the system may include up to approximately 30 GW of wind and solar power, electricity storage, and electric boilers
- Part of this capacity reacts very rapidly to changes in the market prices

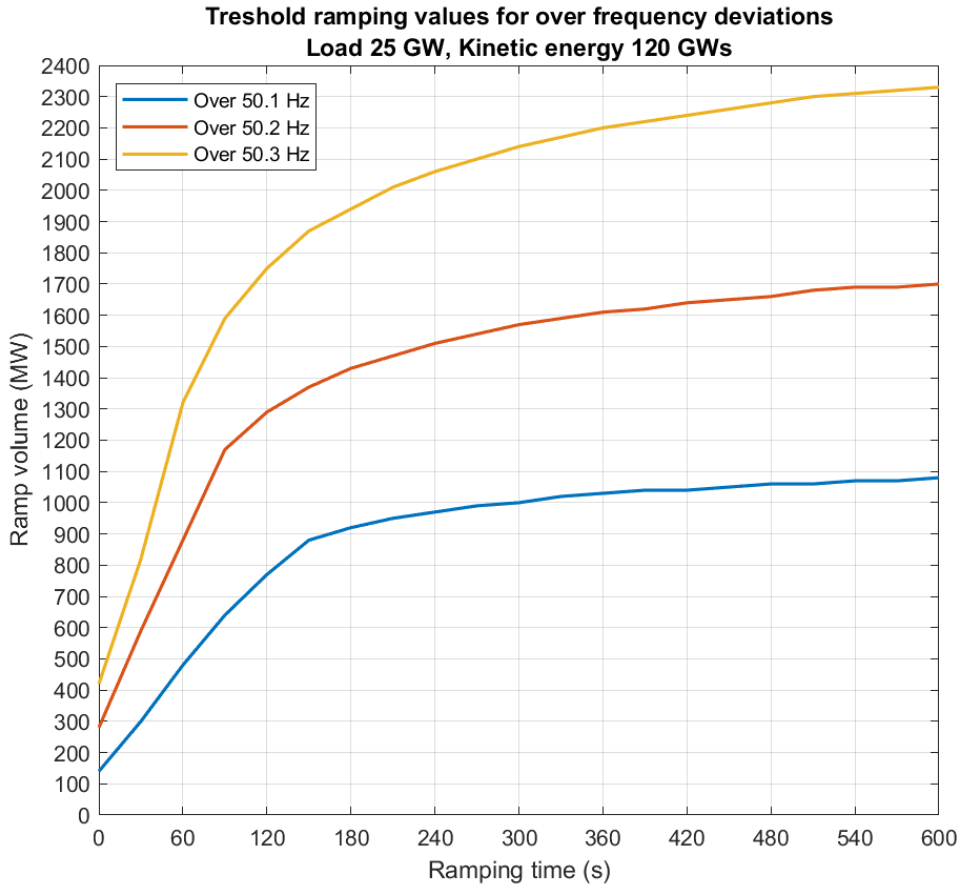
Identified challenges

- Rapid changes in the wind power production around zero prices in the day-ahead market
- Rapid power changes in controllable consumption and energy storages

FINGRID

Limiting the rate of power changes helps maintaining power system balance

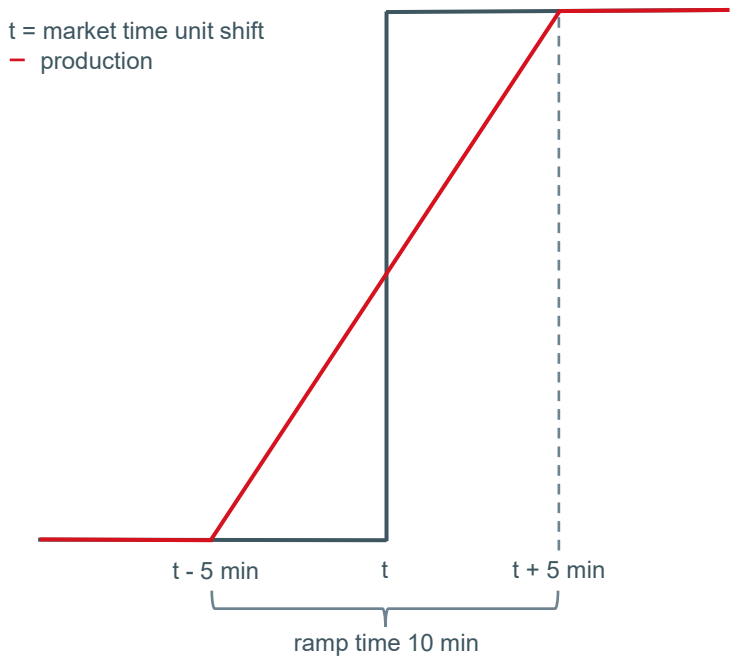
- The impact of a production or consumption ramp on the power system balance depends on both the magnitude and the rate of the power change
  - Relatively small power changes may cause frequency deviations if the rate of change is high
  - Larger power changes do not necessarily disturb power system balance if the rate of change is sufficiently slow



FINGRID

Fingrid is planning introducing a limit for the rate of power changes

- Fingrid proposes that a limit on the rate of change of scheduled power is introduced for generation, energy storage, and controllable consumption
- A draft model for limiting the rate of active power change:
  - Power must change with a linear and symmetrical ramp, starting 5 minutes before the MTU change and ending 5 minutes after the MTU change
  - The limitation applies to *controlled changes* in scheduled power at the MTU change
  - Each market participant takes into account the impact of the ramp on their balance in the energy that is offered for each MTU



FINGRID

Next steps

- Fingrid asks market participants for comments of the initial draft
- Fingrid continues to prepare the limitations on the rate of change of power and will provide information as the preparation progresses
- There is no exact timetable for the introduction of the restrictions yet

FINGRID

Thank you

FINGRID

29.4.2026

Mika Jantunen, Ilmatar Energy Oy
Antti Rautiainen, Pohjois-Karjalan Sähkö Oy

Customer Presentations – The Importance of Forecasts for the Balance Responsible Party (in Finnish)

fingrid.screen.io/tase26

FINGRID

Tuulivoiman tuottajan ennustekyvykkyys

Fingrid Tasepalvelupäivä 29.4.2026

ILMATAR

Ilmatar tänään

TÄHÄN ASTI

>900 MW

EUR >1mrd

Investointipäätökset toiminnan aloittamisen jälkeen

100 %	Uusiutuvaa energiaa
11	Uusiutuvan energian tuotantolaitosta toiminnassa
1	Energiavarasto toiminnassa
658 MW	Energian tuotantokapasiteetti vuonna 2025
1,3 TWh	Tuotettua uusiutuvaa energiaa vuonna 2025
8 GW	Tuulivoimaa, aurinkovoimaa ja energiavarastoja kehitteillä
Yli 60	Työntekijää Suomessa ja Ruotsissa

TULEVAISUUS

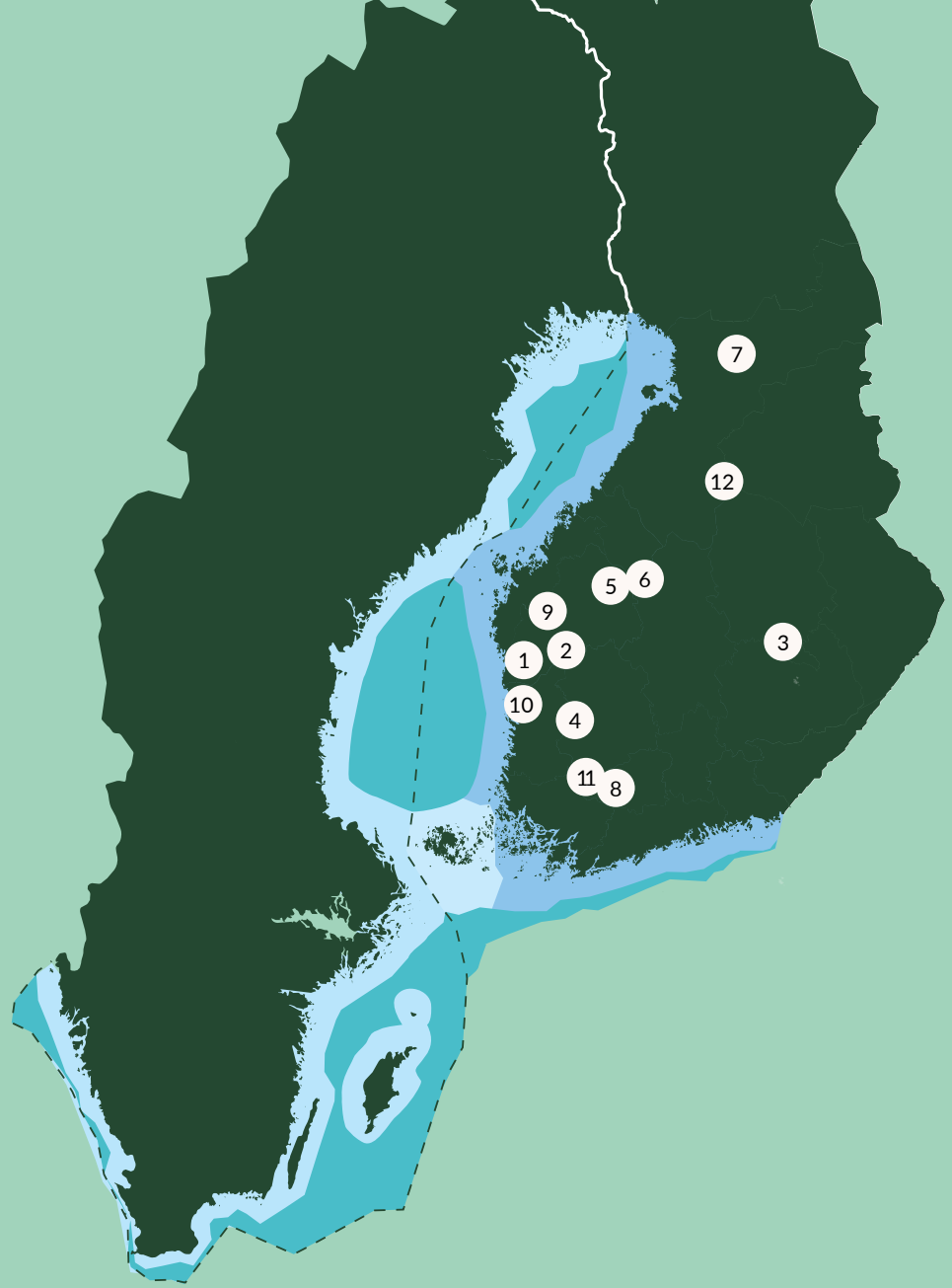
Tehokkaat ja tuottavat uusiutuvan energian tuotantolaitokset ja energiavarastot sekä oikein tasapainotettu tuoteportfolio.

Tuotantolaitoksemme ja portfoliomme

Olemme läsnä Suomessa ja Ruotsissa, missä kehitämme ja operoimme erilaisia tuuli- ja aurinkovoiman tuotantolaitoksiamme.

Meillä on toiminnassa kymmenen tuulivoimapuistoa ja yksi aurinkovoimapuisto sekä kattava hankeportfolio Pohjoismaissa. Lisäksi meillä on toiminnassa yksi energiavarasto.

Olemme sitoutuneet luomaan pitkäkestoista positiivista vaikutusta ja kestävää kasvua vahvalla paikallisella läsnäolollamme, mikä tekee jokaisesta projektistamme ainutlaatuisen.



Toiminnassa ja rakenteilla olevat tuuli- ja aurinko- voimapuistot sekä energiavarasto 2025

		MW
1	Isokeidas, Isojoki	31
2	Jäkäläkangas, Karvia	30
3	Joroinen	5
4	Korpilevonmäki, Säkylä	38
5	Louhukangas, Alajärvi	143
6	Möksy, Alajärvi	78
7	Pahkakoski, Ii	186
8	Palma, Somero	17
9	Rasakangas, Kurikka	48
10	Västervik, Kristiinankaupunki	56
11	Voimamylly, Humppila-Urjala	26
12	Ainola BESS, Pyhäntä	30

Toiminnassa

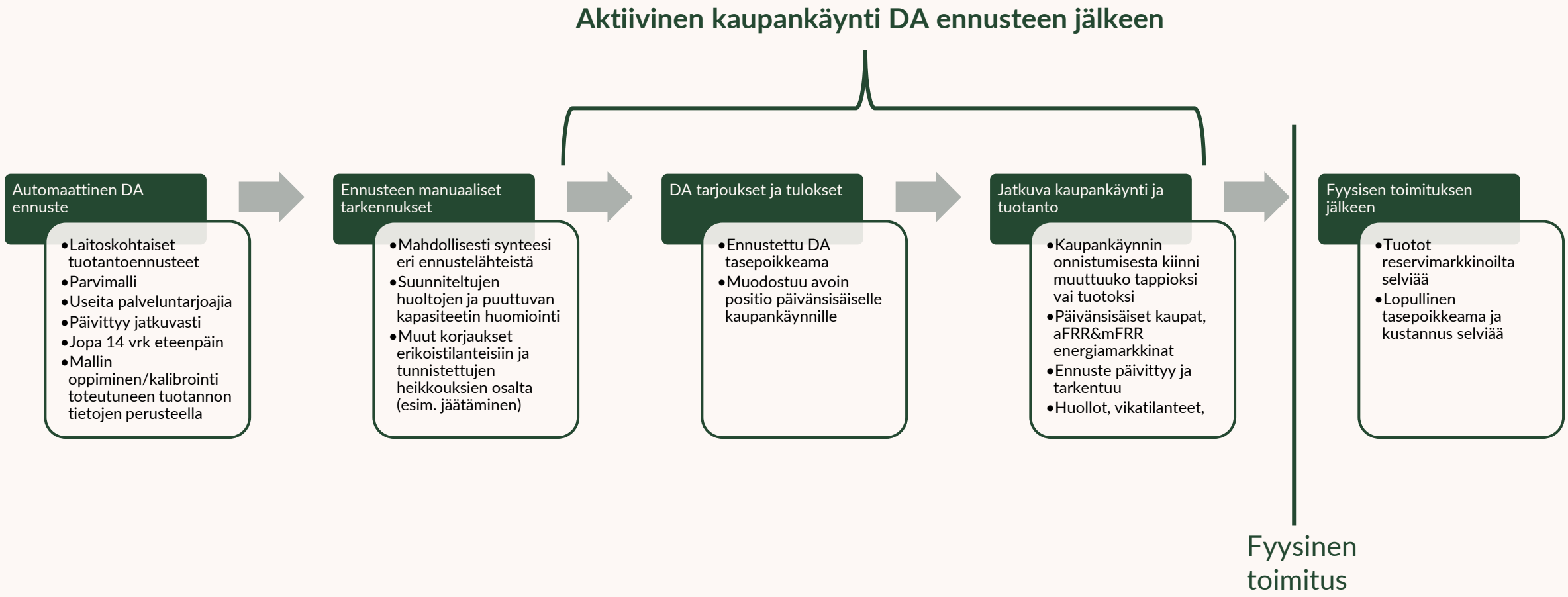
24/7 sähkökaupankäynti

Ympärivuorokautisen sähkökaupankäynnin perustamisen myötä olemme asemoineet itsemme täysivaltaiseksi itsenäiseksi sähköntuottajaksi uusiutuvan energian alalla.

24/7-toiminto antaa meille yhteistyössä muun fyysisen kaupankäyntitiimimme kanssa mahdollisuuden optimoida energiasalkkumme Nord Poolin day-ahead- ja intraday-sähkömarkkinoilla sekä osallistua reservimarkkinoille.

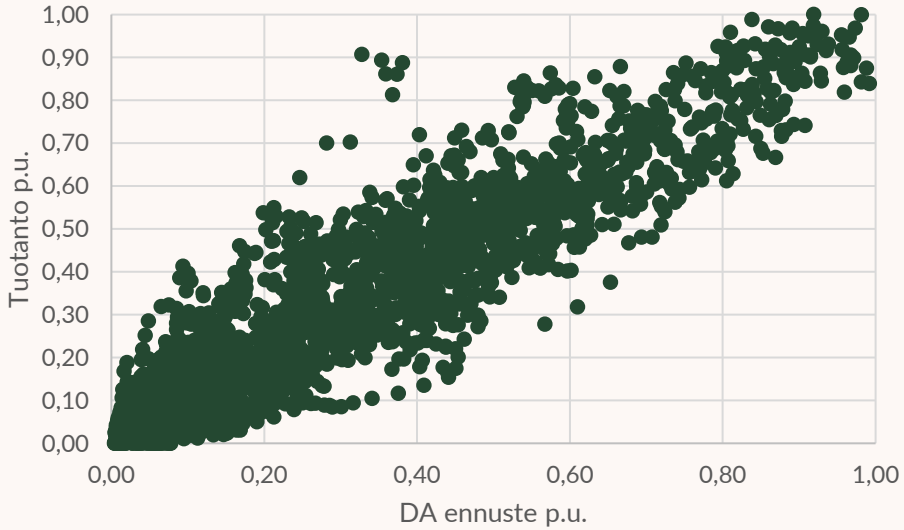
Hyödyntämällä reaaliaikaisia kaupankäyntimahdollisuuksia voimme maksimoida puhtaiden energialähteiden, kuten tuuli- ja aurinkovoiman, integroinnin salkkuumme, mikä pienentää hiilijalanjälkeämme ja edistää puhtaampaa ja kestävämpää energiatulevaisuutta.

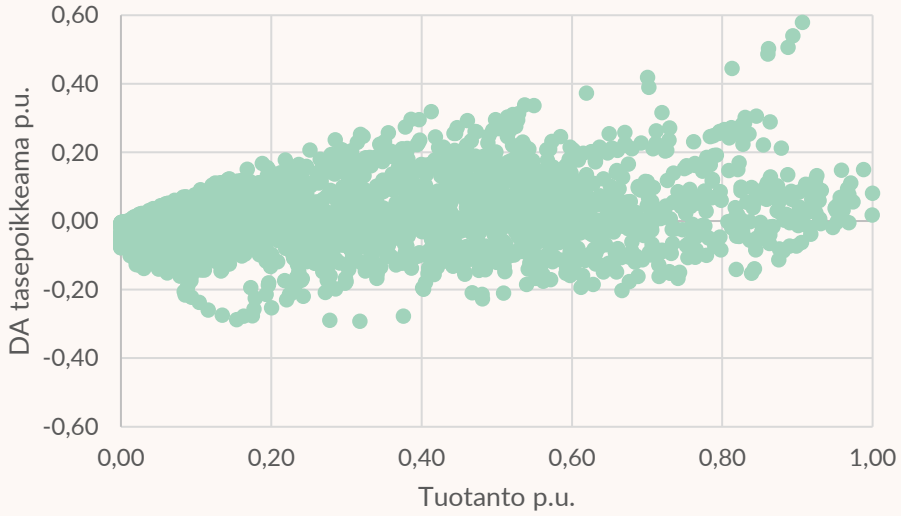
Ennustaminen ja jatkuva kaupankäynti



ILMATAR

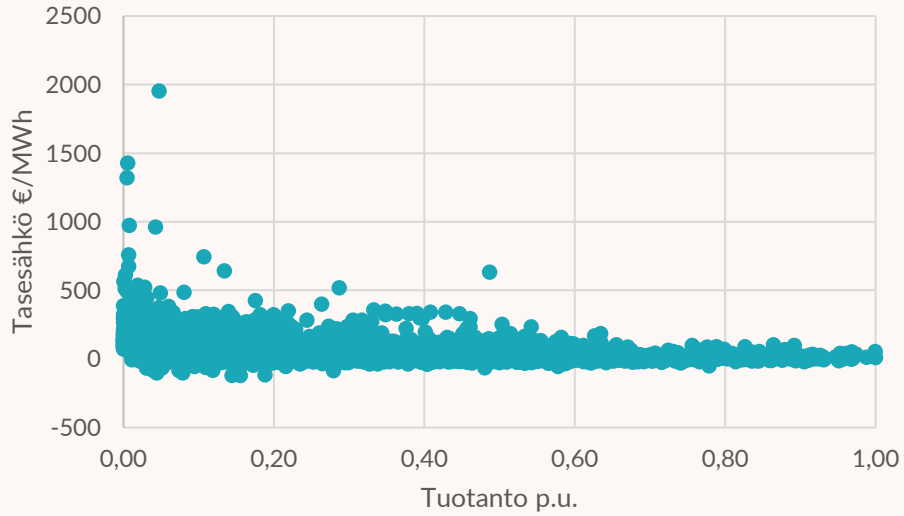
Tuulivoimaennustedataa talvelta 2026

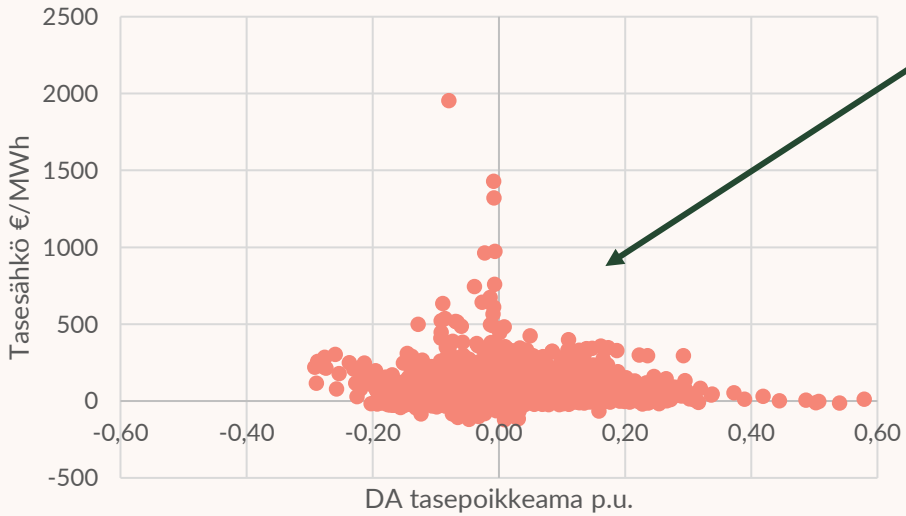




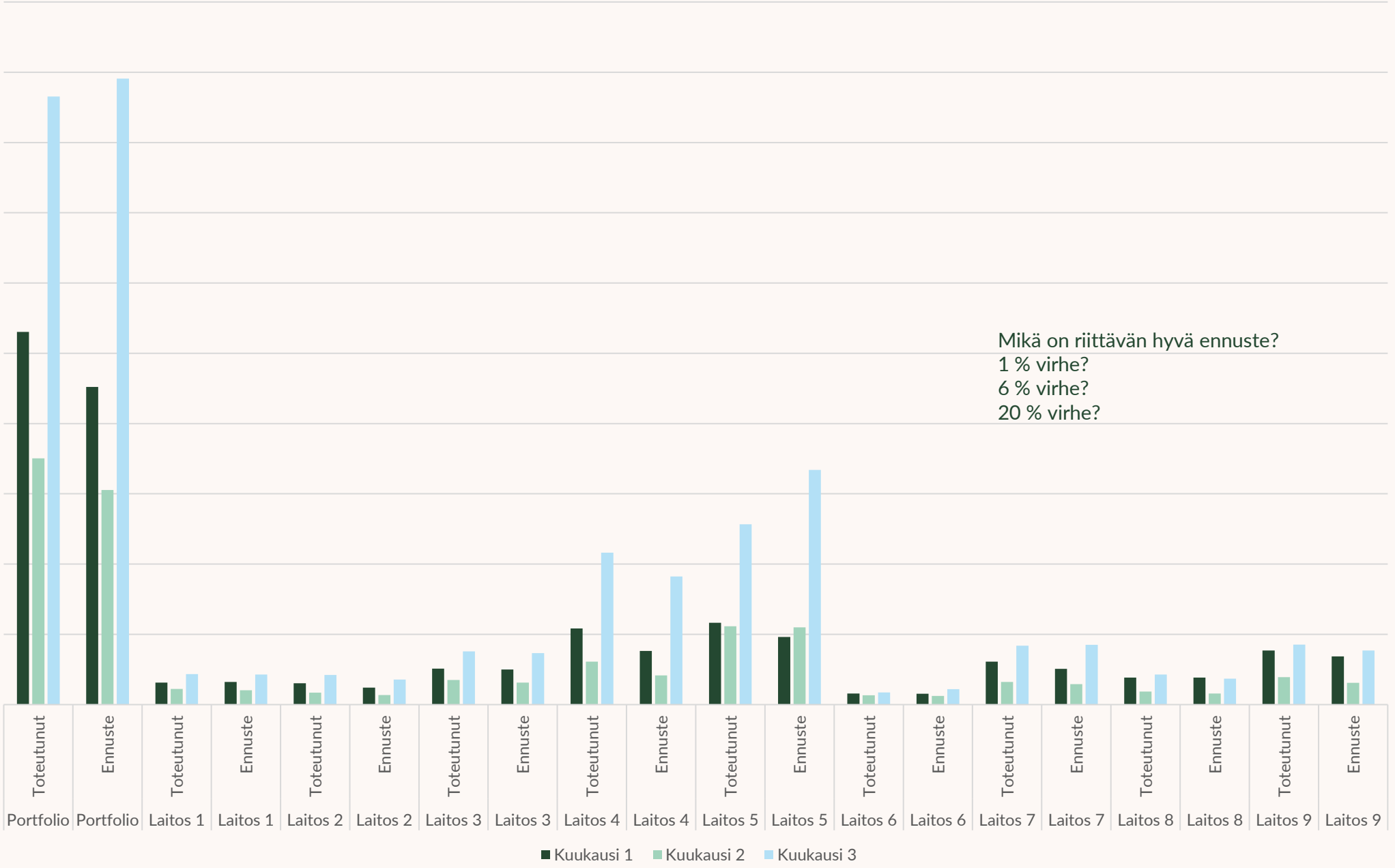
DA ennuste on tuotantoennuste sillä hetkellä kun DA tarjoukset jätetään

DA tasepoikkeama on erotus DA ennusteen ja toteutuneen tuotannon välillä
+ tuotanto suurempi kuin ennuste
- tuotanto pienempi kuin ennuste

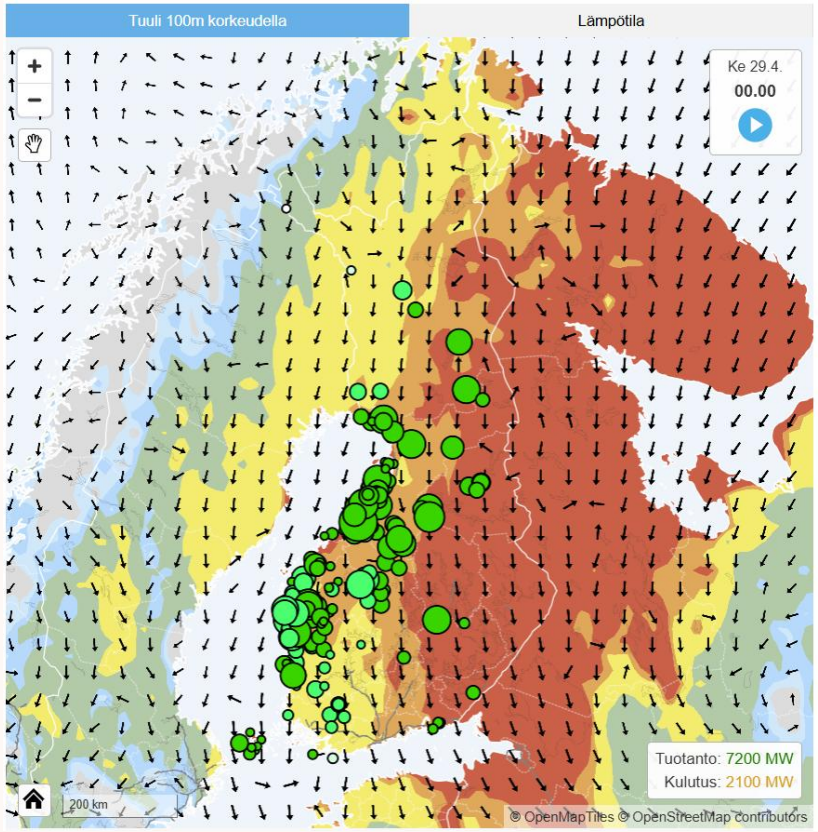




Kuva ei esitä lopullista tasevirhettä/-kustannusta vaan sen tilanteen jos ei olisi tehty mitään kauppoja DA jälkeen.

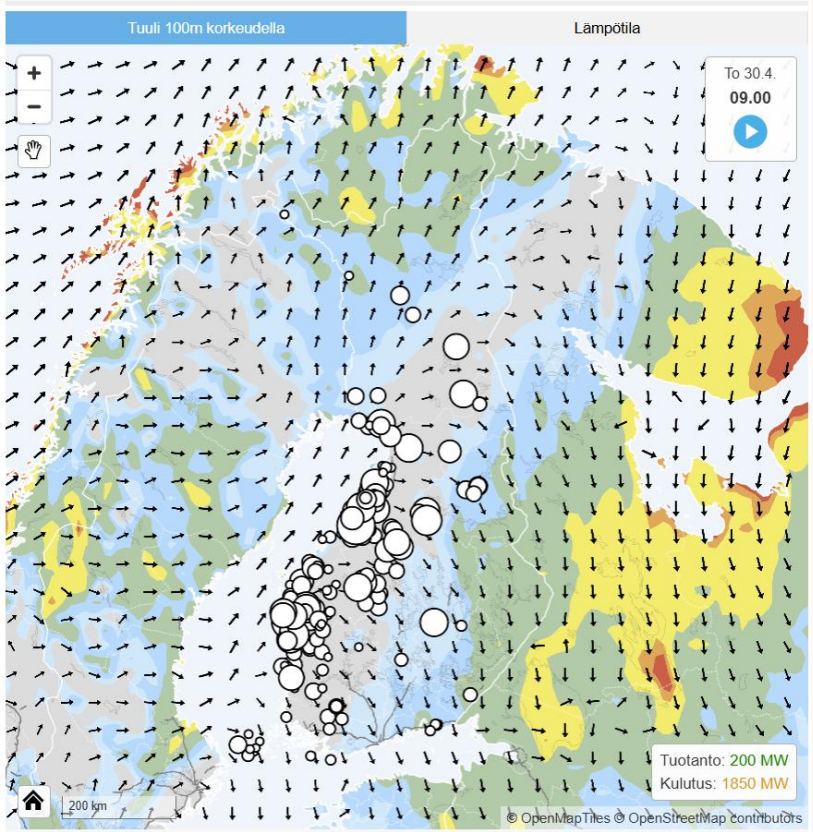

Mikä on riittävän hyvä ennuste?
1 % virhe?
6 % virhe?
20 % virhe?
Toteutunut
Ennuste
Portfolio
Laitos 1
Laitos 2
Laitos 3
Laitos 4
Laitos 5
Laitos 6
Laitos 7
Laitos 8
Laitos 9
Kuukausi 1
Kuukausi 2
Kuukausi 3

Tuulivoiman tuotannon kannibalisaatio ja sijainnin vaikutus ennusteissa

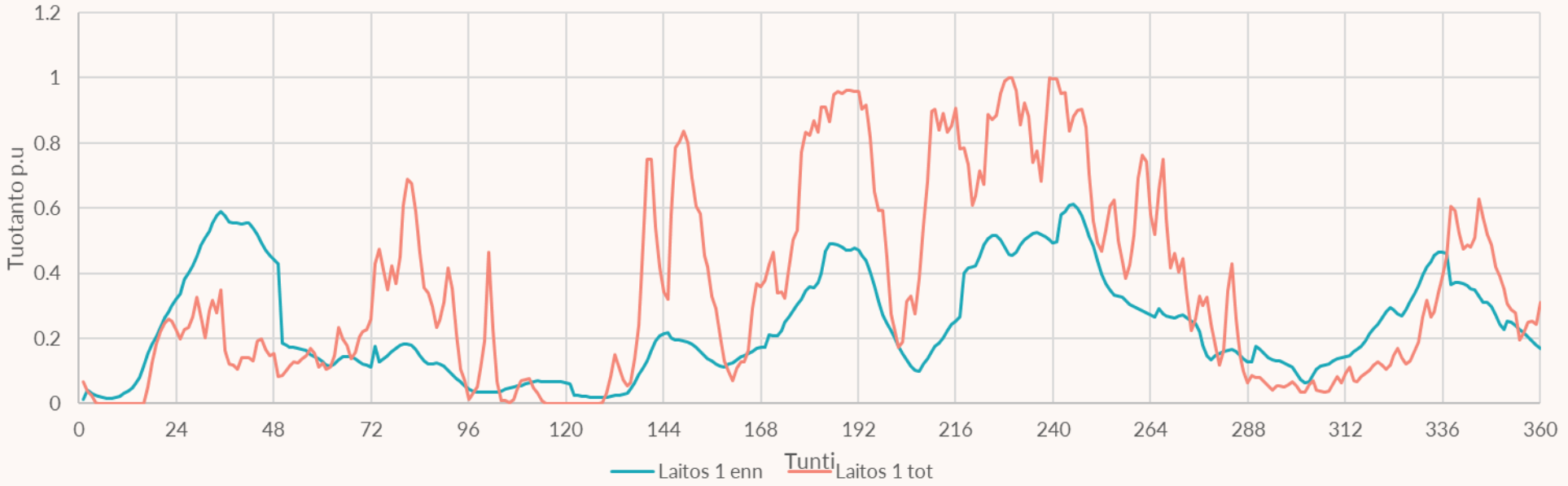


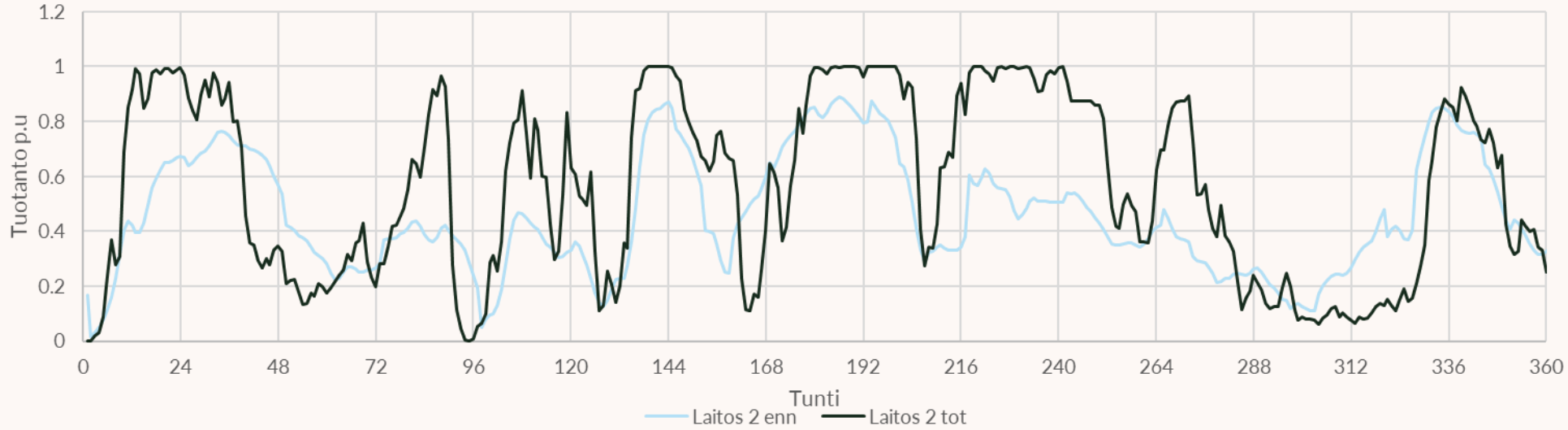
- Useilla tuulivoiman tuottajilla samat ennustemenetelmät käytössä
- Tuulivoiman tuotanto keskittynyt länsirannikolle
- Ennustevirheet kumuloituvat yhdessä isommaksi
- Virhettä vaikea korjata päivänsisäisillä kaupoilla koska muillakin tuulivoiman tuottajilla sama tilanne

- Oman ennusteen heikkous voi olla toiselle mahdollisuus
- Oman ennusteen parantaminen voi auttaa muidenkin tasehallintaa



Myös paikallisia ilmiöitä





Todella vaikea aikaväli talvelta 2026

Laitosten välinen etäisyys 100 km

ILMATAR

Yhteenvetoa

- Ennustevirhettä syntyy aina ja hetkellisesti molempiin suuntiin. pidemmällä aikavälillä kumulatiivisesti lähellä nollaa.
- Ennustevirheestä voi aiheutua tasekustannusta ja mutta myös voittoa
- Aktiivinen tasehallinta kaupankäynnillä tärkeää ennustevirheen taloudellisen vaikutuksen korjaamiseksi
- Jäätämisen vaikutus ennuste-/tasavirheessä pitkällä aikavälillä pienehkö, jäätämisen haittana enemmänkin aiheutuneet tuotantotappiot
- Jäätämisen lisäksi tuulessa (paikallisia) ilmiöitä talven aikana, jotka vaikea ennustaa
- Kaikki ennustetoimittajat puhuvat AI/ML malleista, mutta oppivatko ne oikeasti?

Tasevastaavapäivä 29.4.2026

ENNUSTEKYVYKKYYDEN MERKITYS TASEVASTAAVALLE – SÄHKÖNMYYJÄN NÄKÖKULMA

Antti Rautiainen
Riskienhallintapäällikkö, dosentti
PKS Sähkökauppa/Pohjois-Karjalan Sähkö Oy

PKS Sähkökauppa

ESITYKSEN SISÄLTÖ

1. PKS lyhyesti
2. Sähkönmyyjän taseriskit
3. Ennusteiden merkitys sähkönmyyjälle
4. Yhteenveto

PKS Sähkökauppa

1. PKS LYHYESTI

PKS Sähkökauppa

POHJOIS-KARJALAN SÄHKÖ -KONSERNI

- Perustettu 1945, kotipaikka Joensuu, n. 98% kuntien omistama
- PKS-konsernilla on neljä eri liiketoimintaa:
  1. Sähkönmyyntiä koko Suomeen (PKS Sähkökauppa)
  2. Sähköntuotantoa (vesivoimaa, ydinvoimaa, tuulivoimaa)
  3. Sähkönjakelua Jerusalemista Egyptinkorpeen (PKS Sähkönsiirto Oy)
  4. Sähkö- ja tietoverkkopalveluita (Enerke Oy)
- 2025 henkilöstömäärä n. 343, liikevaihto 213 M€, liikevoitto 21 M€

PKS Sähkökauppa

ME OLEMME PKS SÄHKÖKAUPPA

- Asiakkaitamme ovat kotitaloudet ja yritykset ympäri Suomen.
- Olemme markkinaehtoinen sähkönmyyjä.
- Haluamme kasvaa valtakunnallisesti.
- Haluamme tehdä asiakkaistamme fanejamme.
- Me haluamme olla paras sähkökauppa ikinä – luottamuksen arvoinen ja ylpeästi omanlaisemme.

PKS Sähkökauppa

PKS SÄHKÖKAUPPA SÄHKÖMARKKINOILLA

- PKS on tasevastaava – sähkönmyyntimme altistuu täysimääräisesti taseriskeille
- PKS on Nord Poolin jäsen, ja teemme siellä day-ahead- ja intraday-kauppaa
- PKS:n omat ja PKS:n asiakkaiden resurssit osallistuvat reservimarkkinoille
- PKS tekee sähköjohdannaiskauppaa Euronext-pörssissä sekä kahdenvälisesti
- PKS tekee alkuperätakuukauppaa
- Markkinaehtoisuuden ydin on siinä, että ollaan siellä markkinoilla!

PKS Sähkökauppa

2. SÄHKÖNMYYJÄN TASERISKIT

PKS Sähkökauppa

SÄHKÖNMYYNNIN ETENEMINEN ERI AIKAJÄNTEILLÄ

Viikkoja-vuosia ennen sähkön kuluttamista

Sähkö-sopimus-tuotteet → Hinnoittelu → Myynti → Pitkän ajan kuormaennuste asiakkaista → Finanssisuojaus (tai kiinteähintainen fyysinen kauppa)

Sähkön-kulutusta edeltävänä ja samana päivänä kuin sähkönkulutus

Seuraavan päivän kuorma-ennuste → Spot-kauppa (day-ahead) → Kuorma-ennusteen päivitys lähi-tunneille → Intra-day-kauppa → Sähkön kulutta-minen → Tase-sähkö-”kauppa”

Sähkön-kulutuksen jälkeen

Kateanalyysi:

Myyntikate = Liikevaihto ± Finanssisuojausten nettoarvon tilitykset – Spot-kustannukset ± Intraday-kustannukset ± Tasekustannukset ± Muita kustannuksia

TASEPOIKKEAMAN MUODOSTUMINEN

Sähkönmyyjän yksinkertaistettu versio

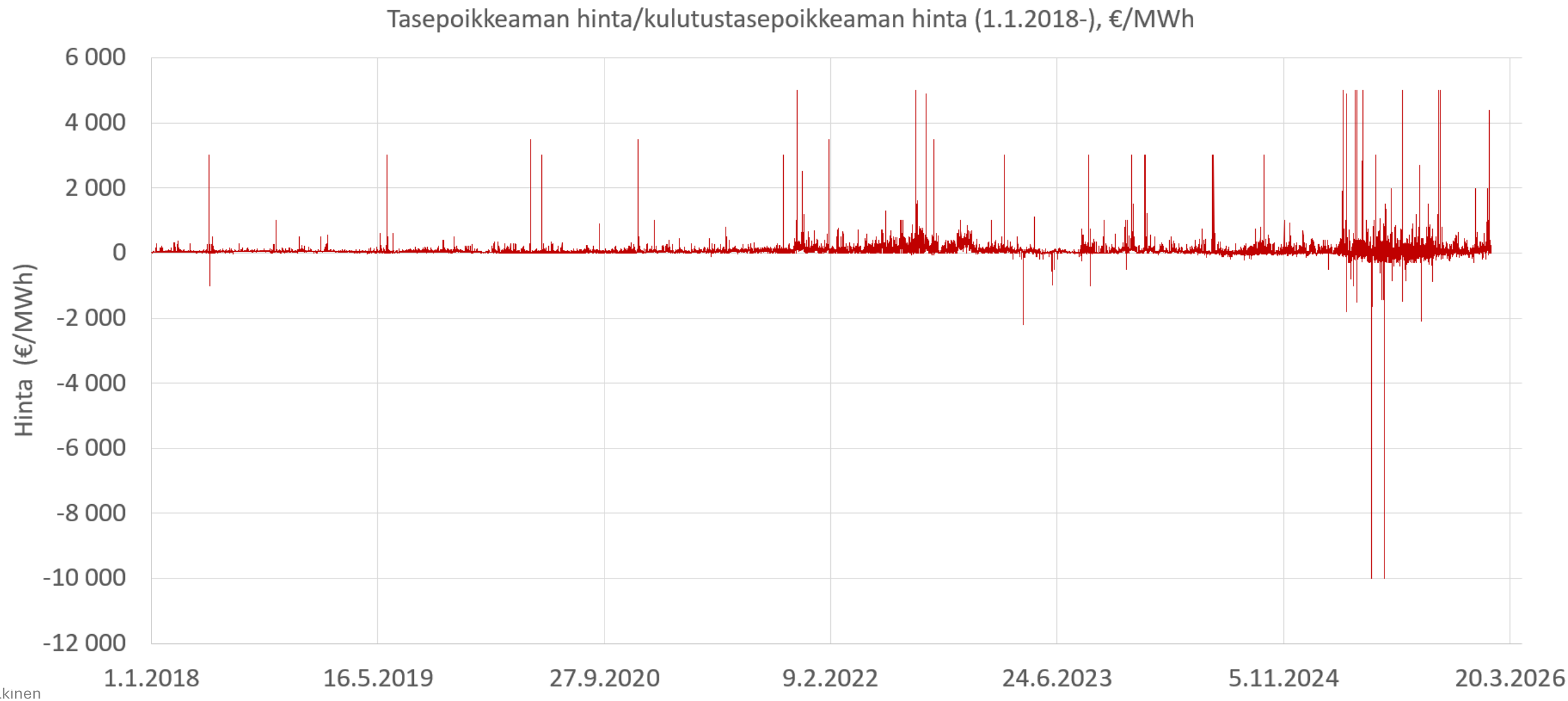
Sähkönmyyjä voi vaikuttaa sekä kauppoihin että kulutukseen, mutta kauppoihin paljon enemmän. 😊

Taseriski:

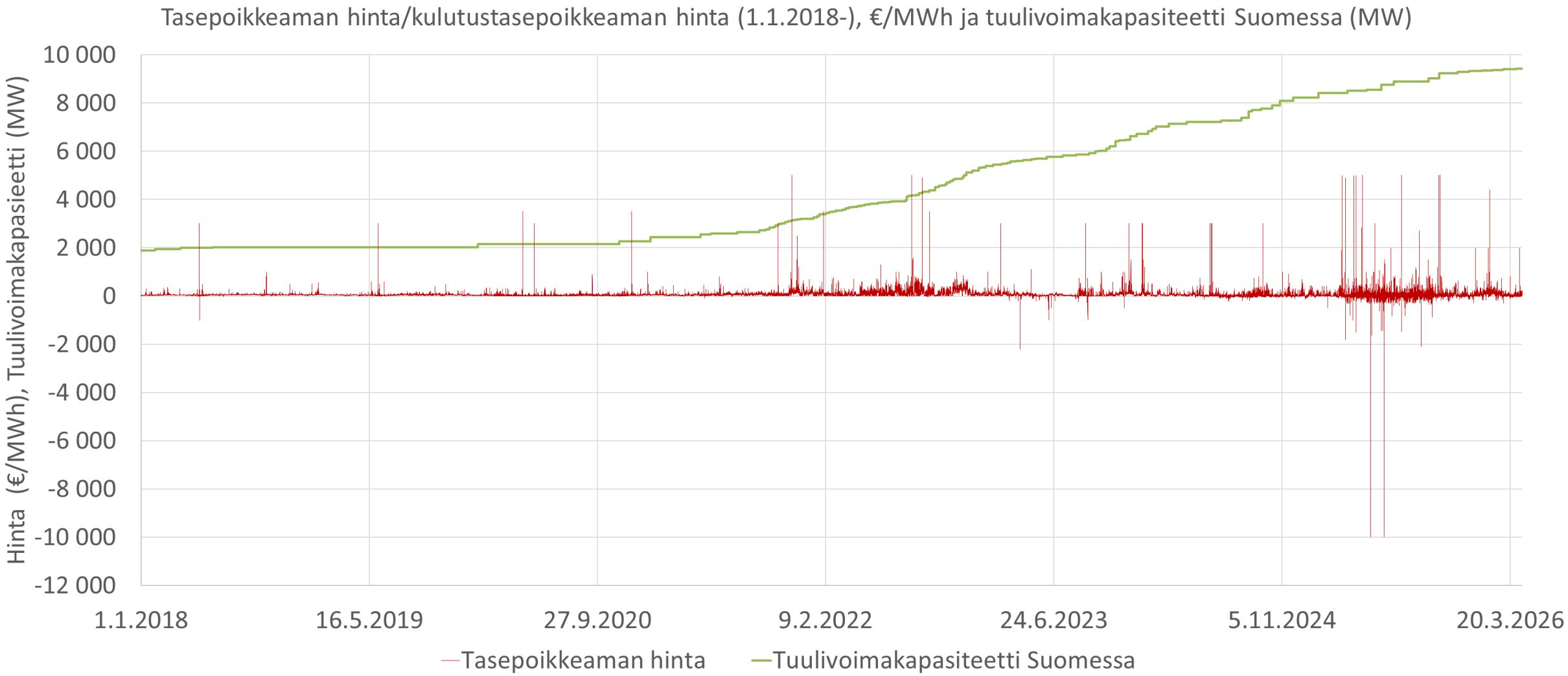
- Joudutaan ostamaan tasesähköä korkealla hinnalla
- Joudutaan myymään tasesähköä alhaisella hinnalla

PKS Sähkökauppa

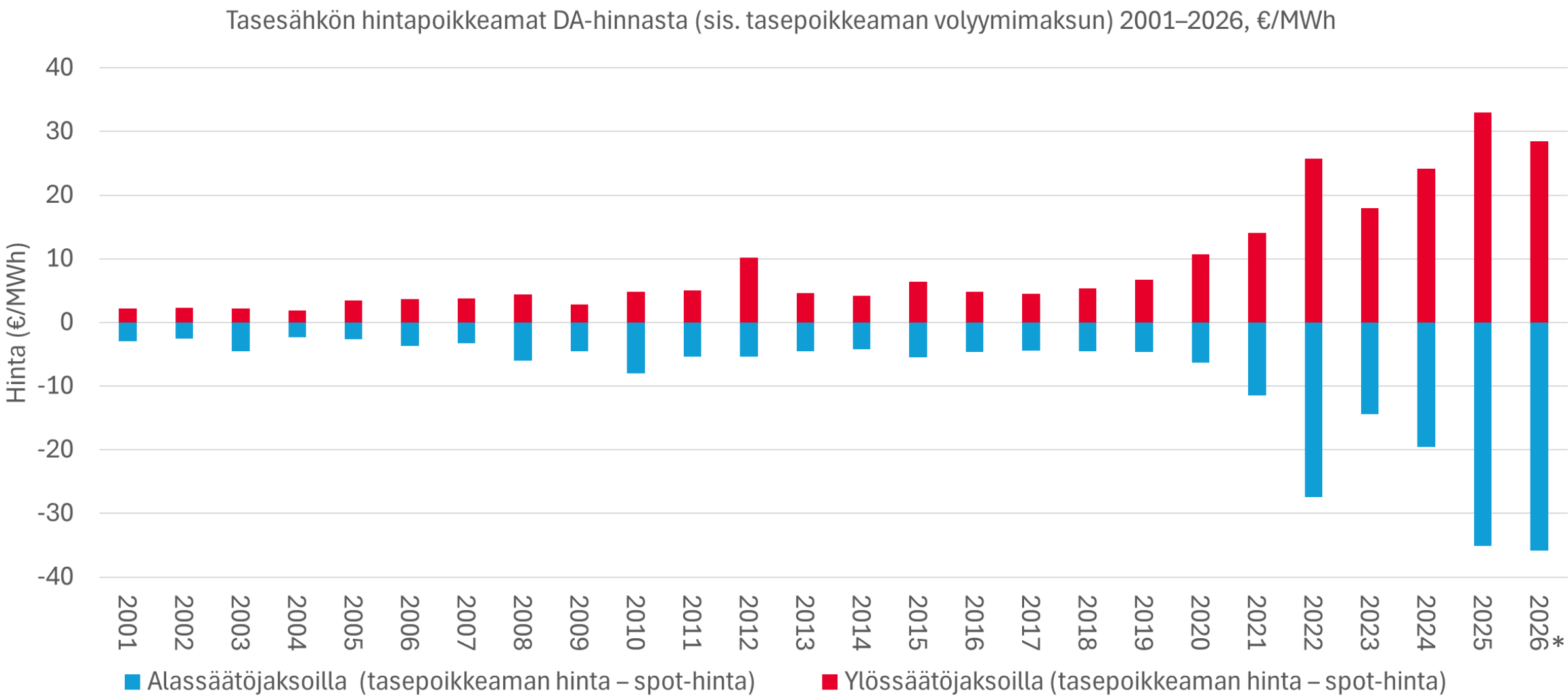
TASEPOIKKEAMAN HINTA



TASEPOIKKEAMAN HINTA JA TUULIVOIMAKAPASITEETTI

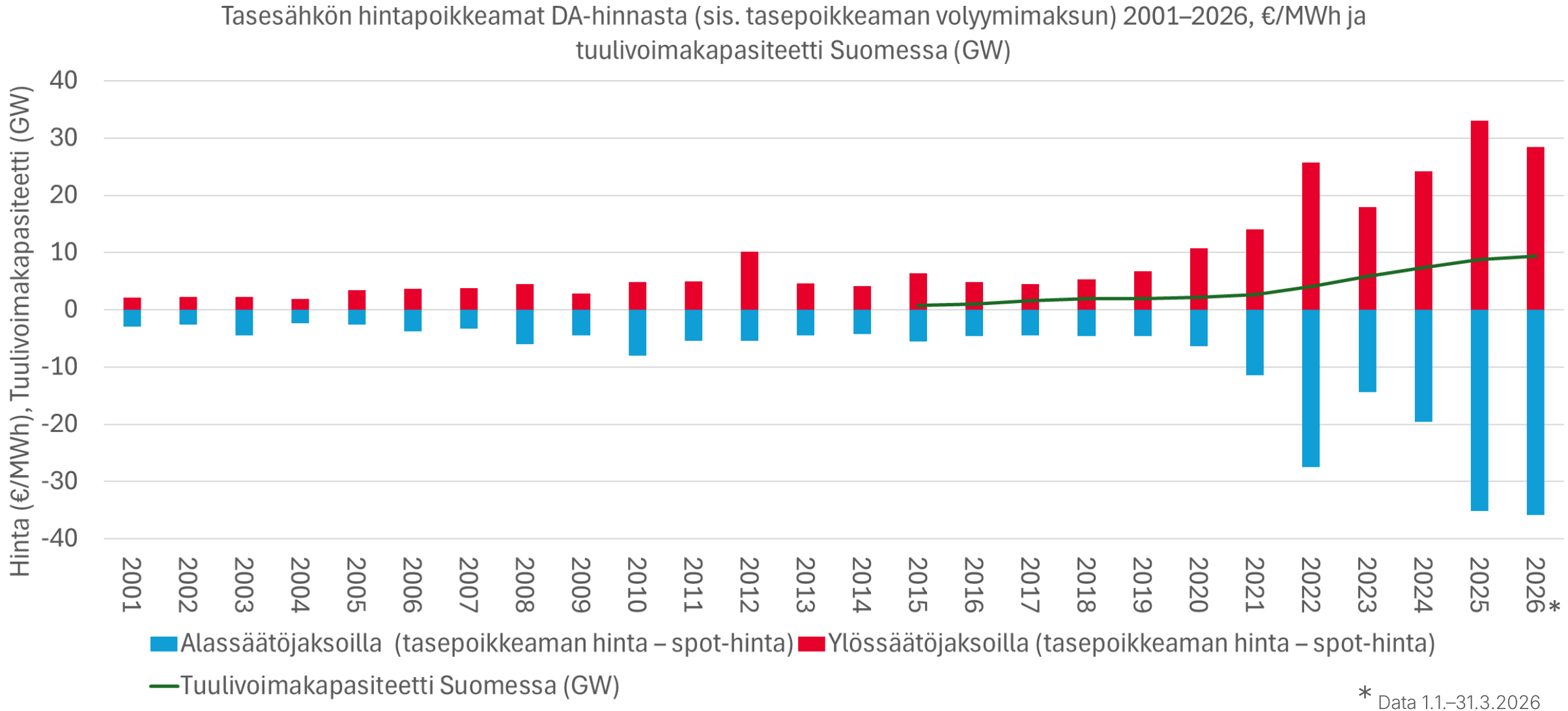


TASEPOIKKEAMAN HINTAEROT DA-HINNASTA



* Data 1.1.–31.3.2026

TASEPOIKKEAMAN HINTAEROT DA-HINNASTA JA TUULIVOIMAKAPASITEETTI



* Data 1.1.–31.3.2026

3. ENNUSTEIDEN MERKITYS SÄHKÖNMYYJÄLLE

PKS Sähkökauppa

SÄHKÖNKÄYTTÖÖN VAIKUTTAVAT TEKIJÄT

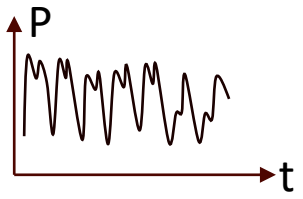
- Lämpötila-riippuvuus
- Auringonsäteilyn vaikutus

Ulkolämpötila ja muut sääolosuhteet

Sähkölaitteiden käyttötottumukset ja -tarpeet

- Viikonpäivä- ja vuorokausirytmi
- Erikoispäivien (juhlapyhät) muutokset

Sähkönkäyttö-profiili



- Spot- ja kaksiaika-hintariippuvuus
- Joustopalveluiden vaikutus kulutukseen

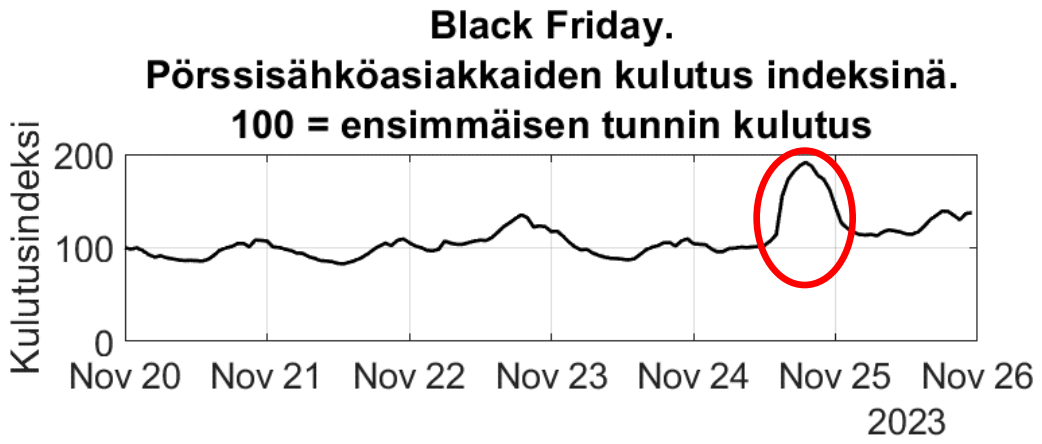
Sähköenergian hinta ja mahdolliset joustopalvelut

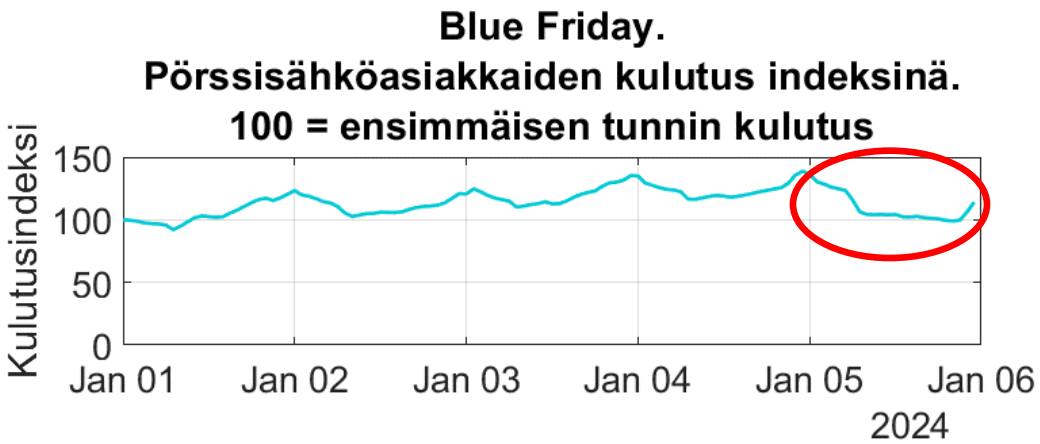
Aika- ja/tai tehoriippuvat verkkopalvelumaksu

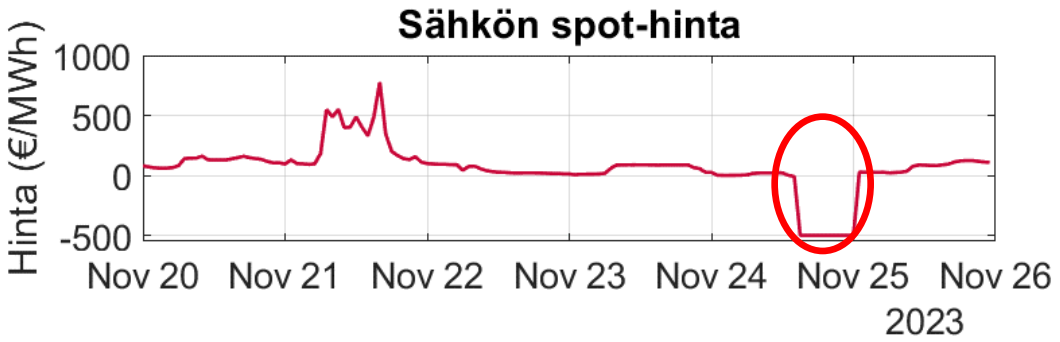
- Kaksiaika- (kello-) kuormanohjaus
- Tehomaksun joustoa rajoittava vaikutus?

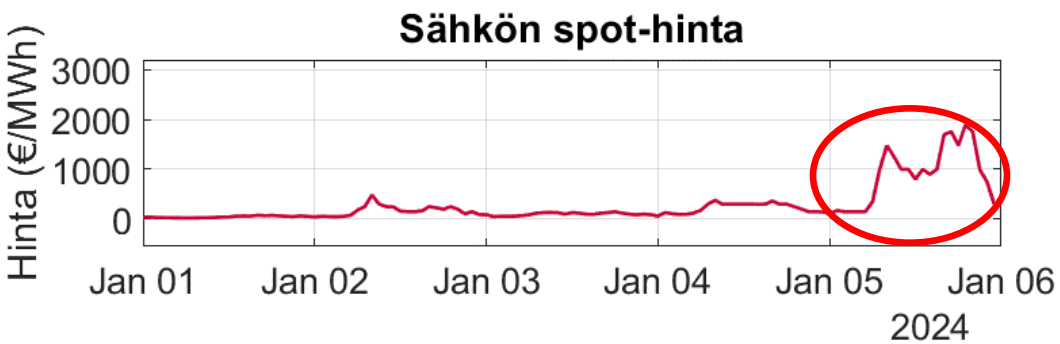
PKS Sähkökauppa

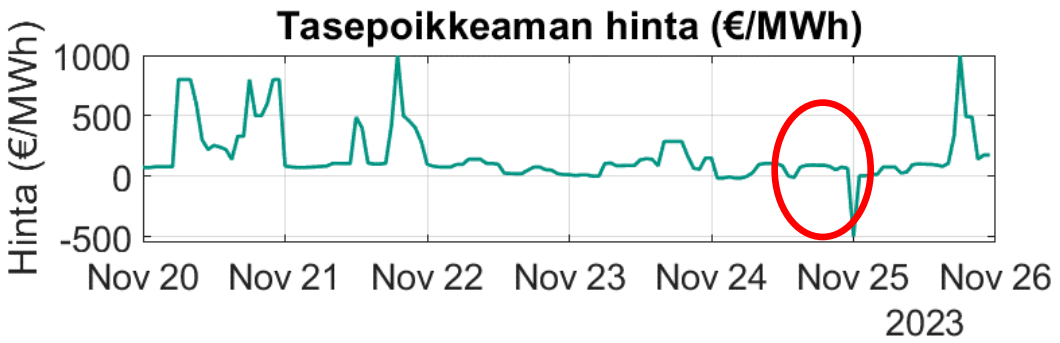
ESIMERKKEJÄ HINTAJOUSTON OPPIMISHETKISTÄ

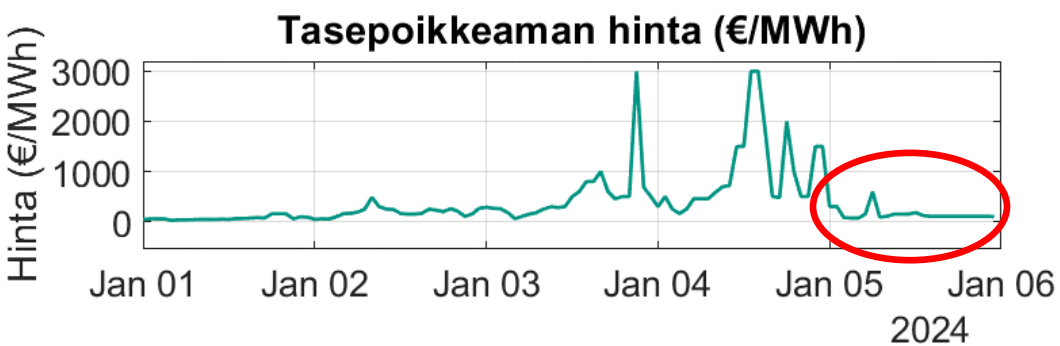












TASEHALLINTA ON MUUTAKIN KUIN KULUTUKSEN ENNUSTAMISTA

- Tasehallinnan työkaluja:
  - Hyvä spot-hintaennuste
  - Tasepoikkeaman hinnan ennuste ja/tai säätösuunnan ennuste
  - Reaaliaikamittaukset
  - Kulutusjousto tasehallinnan tarpeisiin

PKS Sähkökauppa

4. YHTEENVETO

PKS Sähkökauppa

LOPUKSI

- Nykyisessä volatiilissa sähkömarkkinassa ennustekyvykkyys ja tasehallinta ovat erittäin tärkeitä
- Ennustaminen ei koskaan ole helppoa 🥲
- Hintajouston ennustaminen on korostunut viime vuosina
- Kulutusjoustopalvelut voivat olla ”uusi” nousevassa roolissa oleva työkalu tasehallintaan

PKS Sähkökauppa

KIITOS MIELENKIINNOSTA!

KYSYMYKSIÄ TAI KOMMENTTEJA?

PKS Sähkökauppa

Thank you

FINGRID

CURRENT TOPICS AND DEVELOPMENT OUTLOOK

FINGRID

29.4.2026

Olli Vainikainen, eSett Oy

eSett's Current Overview (in Finnish)

fingrid.screen.io/tase26

FINGRID

eSettin ajankohtaiskatsaus

Olli Vainikainen | **29.4.2026**
Advisor

eSett lyhyesti

Pääkonttori Helsingissä

TASESELVITYS

Taseselvitys tasevastaaville Tanskassa, Suomessa, Norjassa ja Ruotsissa.

Palvelee yli **1 000** sähkömarkkina-osapuolta.

POHJOISMAISTEN KANTAVERKKOYHTIÖIDEN YHTEISOMISTUKSESSA TASASUURIN OSUUKSIN

Energinet
Fingrid
Statnett
Svenska kraftnät

VUOSI 2025 LUKUINA

Henkilöstön vaihtuvuus **12%**

Taseselvitetty kokonaismäärä EUR **2 845** miljoonaa

Henkilöstön Suositteluindeksi (NPS) **+77**

Kokoaikaisten työntekijöiden määrä **24**

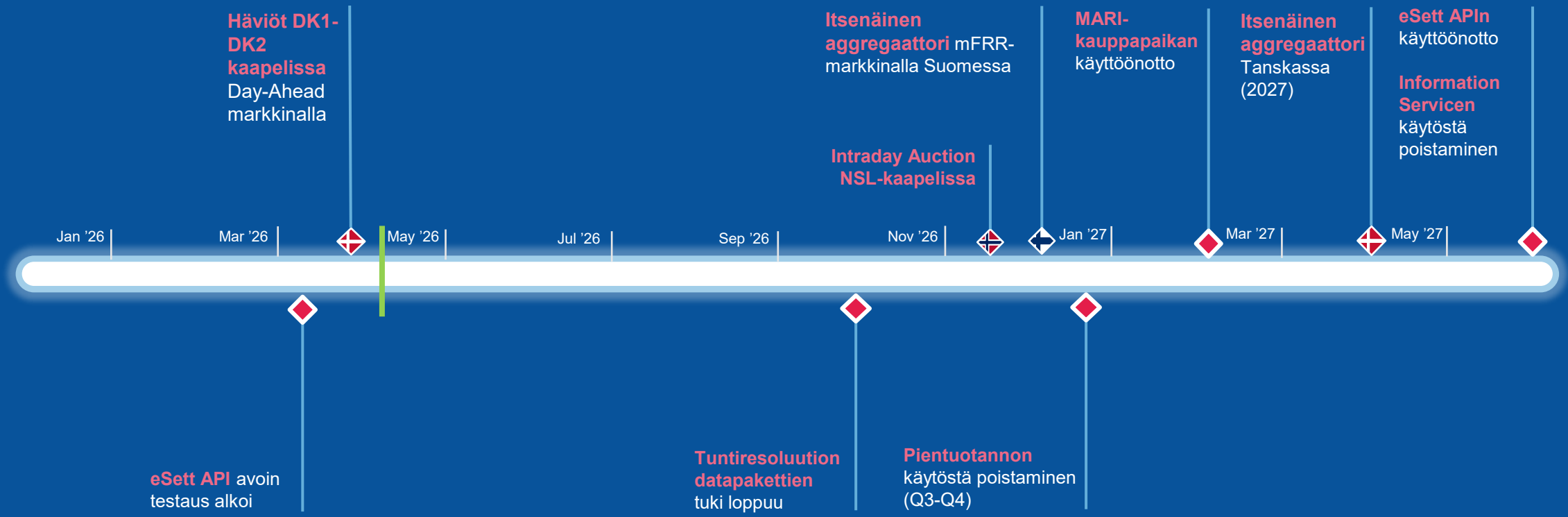
Asiakas-palvelun arvosana **4,4 / 5**

Liikevaihto EUR **9,5** miljoonaa

Kaikkien palveluiden käytettävyysaste **100%**

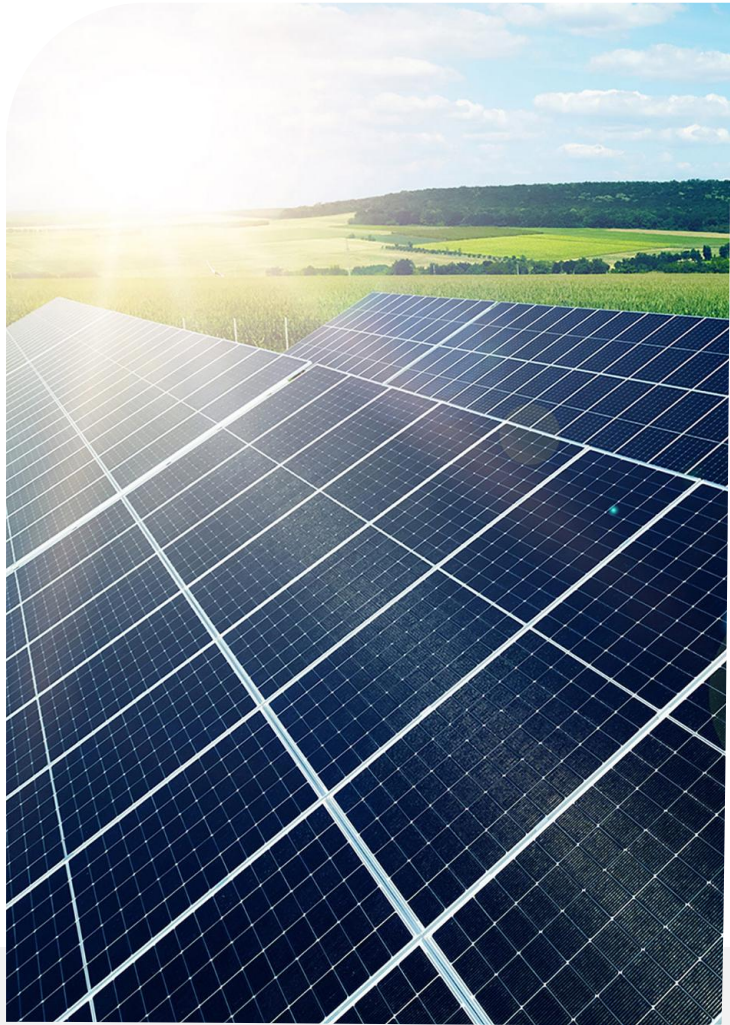
Kehityshankkeet

01/2026 – 05/2027



Itsenäinen aggregaattori

- Reservitoimittaja (BSP), joka aktivoi resursseja toisen myyjän (RE) taseesta ilman erillistä sopimusta
- **Käyttöönotto:**
  - aFRR-energiamarkkinoilla Suomessa 5.6.2025
  - mFRR-energiamarkkinoilla Suomessa Q4/2026
  - Tanskan markkinoilla 2027 vuoden aikana
- **Avainasiat eSettin mallissa:**
  - Aktivointi toisen osapuolen taseesta
  - Tiedonvaihdon muutokset: Toimitettu säätöenergia -sanoma (Delivered Reserves, DERI)
  - Tasepoikkeamakorjaus toimitetun säädön perusteella
  - Kompensaatiot: BRP ↔ BSP
  - Säätöpoikkeamat [”regulation imbalance”] (vrt. tasevastaavan tasepoikkeamat), joilla on hinta ja maksukomponentti



Pientuotannon käytöstä poistaminen

- Erilliselle pientuotannon käsittelylle ei ole enää perusteita nykyisessä mallissa
- Nykyiset pientuotannon rakenteiden ja aikasarjojen tyypit vaihdetaan eSettin toimesta Suomessa, Ruotsissa ja Norjassa (tuotantotyypin muutos Minor → Normal)
- Markkinatoimijoiden tulee varmistaa, että heidän järjestelmät tukevat muuttuneita tuotannon rakenteita
  - Sanomissa käytetään jatkossa pelkästään koodia Z01 (Normal). Koodin Z02 (Minor) käyttö loppuu
- **Käyttöönotto**
  - **FI:** Kaksi kuukautta Energiaviraston vahvistettua uudet tasevastaavien ehdot, kuitenkin aikaisintaan syyskuussa 2026
  - **SE & NO:** 1.11.2026
- Lisätietoja saatavilla esett.com projektisivulla (https://www.esett.com/decommissioning-of-minor-production/)

eSett API

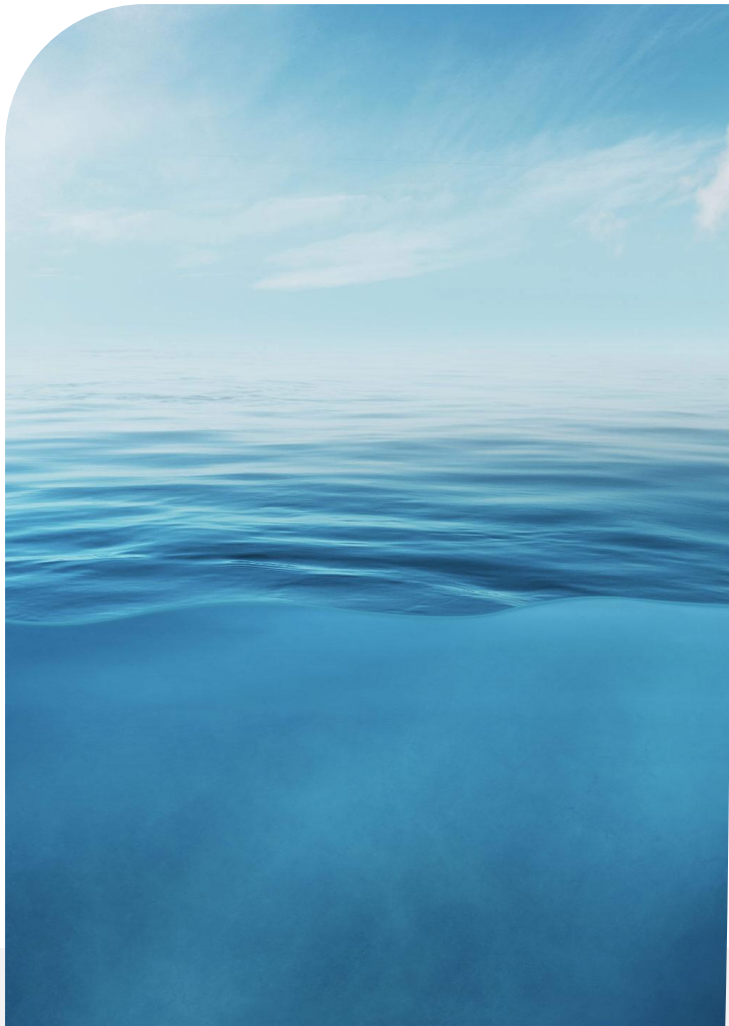
eSett API – Uusi rajapinta datan hakemiseen

- eSett API toimii REST API -pohjaisesti
- Korvaa nykyisin käytössä olevan Information Servicen
- Käyttöönotto 2027 vuoden puolella

Asiakastestaus käynnissä

- Uusi eSett API -testiympäristö avattiin asiakastestaukseen 23.3.2026
- Tukee siirtymää nykyisestä Information Servicestä eSett API:in
- Mahdollistaa integraatioiden testaamisen ja validoinnin testidatalla

➢ Kiinnostunut testaamisesta? Katso ohjeet liittymiseen eSettin nettisivuilta (www.esett.com/esett-api)



eSett API aikajana

Design (2024)

Goals and technical direction defined

API architecture and system integrations designed

Development (Early 2025)

Core API components under development

Endpoints developed using OpenAPI specification

Internal Testing & Quality Checks (2025-2026)

Internal testing and security validation completed

User documentation prepared

Customer Preparation (Early 2026)

Customers submit source IP / IP range for whitelisting

eSett configures required firewall rules

Test Environment Opens (March 2026)

Customers receive access credentials

First external testing with 13 selected use cases begins

Customer Integration & Support (2026–2027)

Customers start integrating their systems with the new API

eSett provides support throughout the transition

Performance monitoring and reliability improvements continue

Gradual Migration (2026–2027)

Customers move remaining data access from the Information Service to the REST API

Enhancements implemented based on customer feedback

Full Transition Deadline (5/2027)

Information Service fully discontinued

New REST API becomes the only available interface for all functionalities

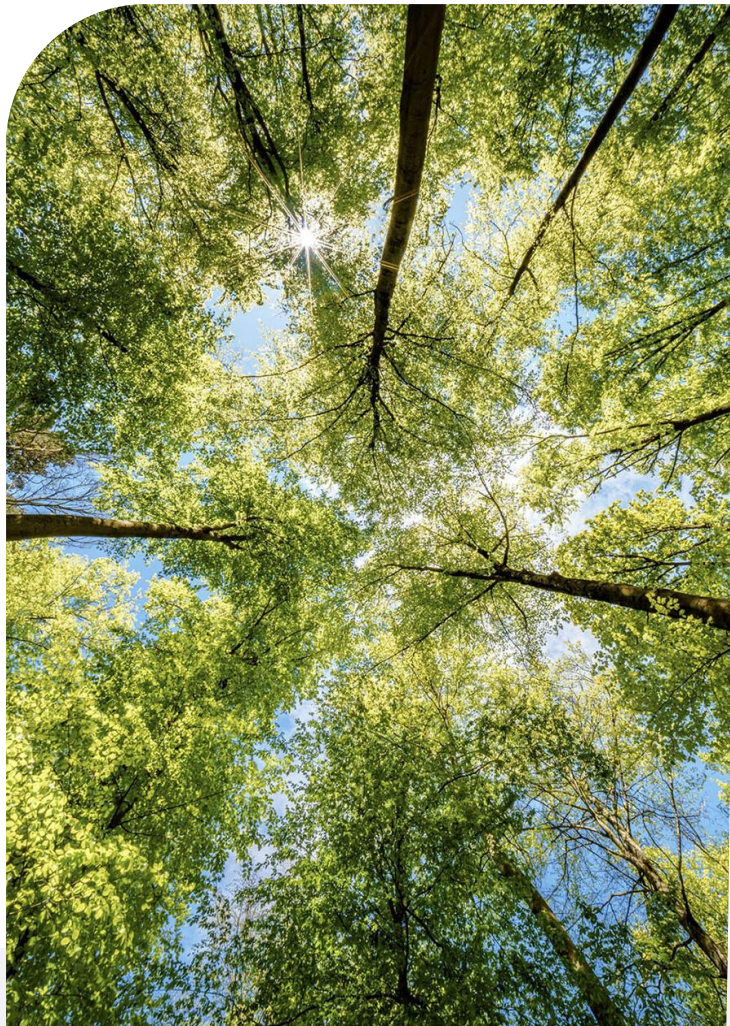
Online Servicen kehitys

Online Service -uutiset myös sähköpostiin (valmis keväällä 2026)

- Jatkossa eSettin Online Serviceen julkaistut uutiset voidaan vastaanottaa myös sähköpostitse
- Parantaa uutisten näkyvyyttä, saavutettavuutta ja ajantasaisuutta

Online Servicen uudistaminen

- Online Servicen uudistuksen esiselvitys ja tarvekartoitus on käynnistetty
- Painopisteenä asiakashyödyt, käyttökokemus ja tulevat toiminnallisuudet
- Työtä tehdään tiiviissä vuoropuhelussa asiakkaiden kanssa mm. kyselyiden, haastatteluiden ja Customer Committeen kautta



Nostoja nykyisistä palveluista

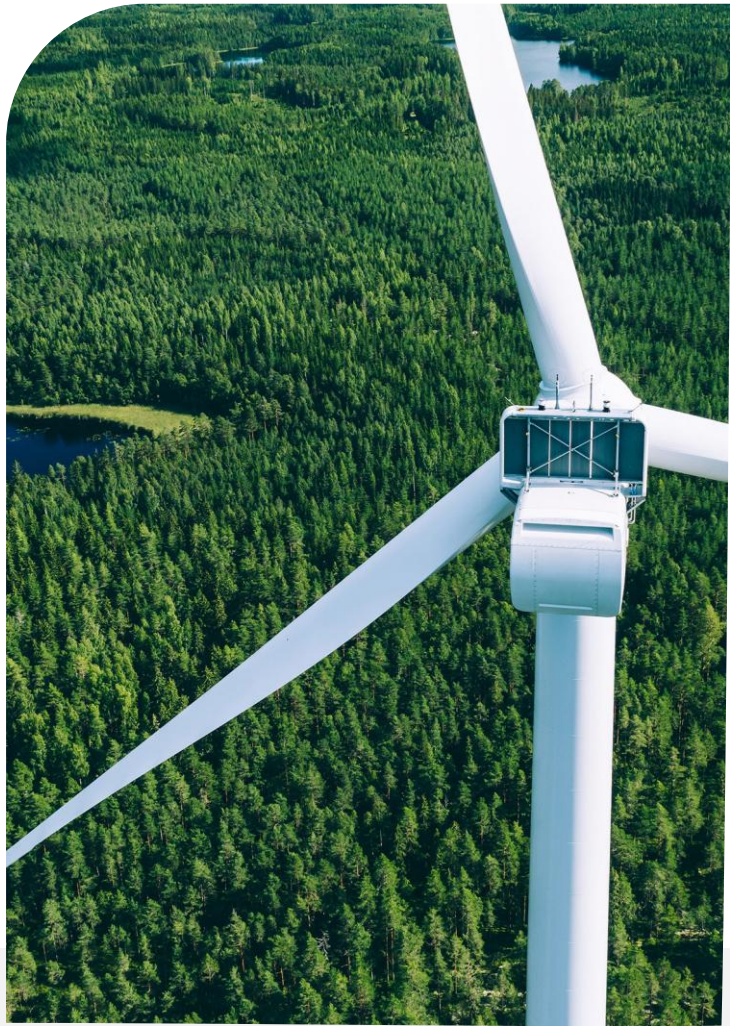
eSettin palvelut eri maissa

	Denmark	Finland	Norway	Sweden
Imbalance settlement and invoicing	•	•	•	•
Activated reserve settlement and invoicing (BRP)	•	•	•	•
Capacity reserve settlement and invoicing	•		•	•
Market monitoring and analysis	•	•	•	•
Balancing service provider invoicing		•	•	
Settlement and invoicing of independent aggregators		•		
Reconciliation				•
Collateral management		•	•	•
Open data service	•	•	•	•

Reservidatan tarkistus eSettissä

- Online Servicessä usea eri näyttö reservidatan tarkistukseen:
  - Input Data > Activated Reserves
  - Input Data > Delivered Reserves (vain aFRR markkinalle tässä kohtaa)
  - Settlement > Balancing Services
- Lisäksi BRP ja BSP roolit saavat reservidataa datapakettien ja Information Servicen välityksellä
- Osapuolien on tärkeää tarkistaa eSettille raportoituja arvoja ennen laskutuksen suorittamista korjauslaskujen välttämiseksi

➢ Mitä muita työkaluja tai näyttöjä eSett voisi tarjota markkinaosapuolille datan tarkistusten helpottamiseksi?



eSett Online Service **TEST ENVIRONMENT**

0 User Name (CET) | Independent Aggregator Example (BSP)

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

Settlement > Balancing Services

Balancing Services

1) Taulukon filteröinti

Units: MWh kWh Decimal Unit: 6 Help

MBA: FI

Regulation Object:

Balancing Sub Service:
- Frequency Restoration Reserve - Automatic (FRR-A)
- Frequency Restoration Reserve - Automatic (FRR-A), AOF activation
- Frequency Restoration Reserve - Automatic (FRR-A), non AOF activation

2) Aika-aggregation ja aikavälin valitseminen

Overview

Time Aggregation: 15 min

Period: 01.03.2025 00 – 04.03.2025 24

Currency: EUR DKK NOK SEK

Balancing Services

3) Porautuminen eri tasoille

Refresh | Export to Excel | Save Settings | Restore Default | View Columns

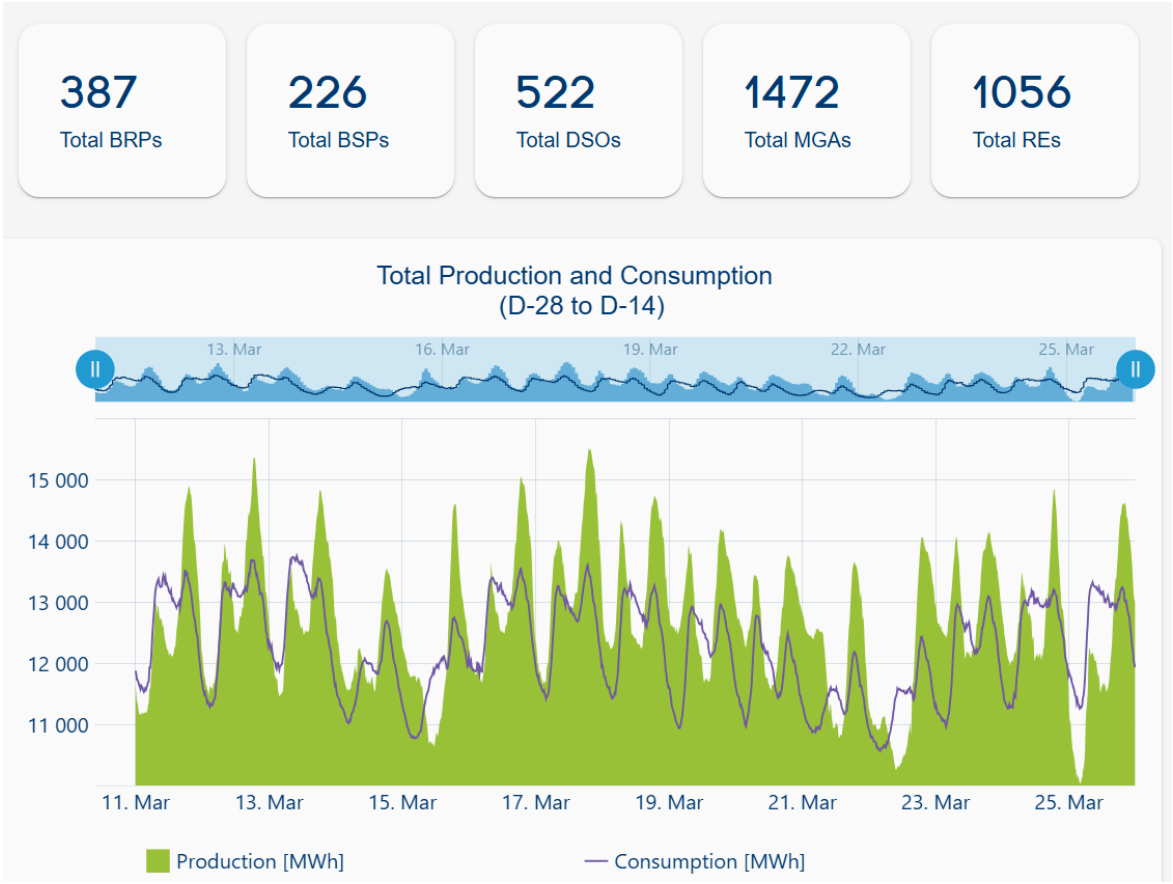
Activated Reserves per MBA, BSS

Activated Reserves per MBA, Direction type, BSP, RO, BSS

Period	Activated Reserves			Delivered Reserves		Regulation Imbalance			
			Down Amount	Up Quantity [MWh]	Down Quantity [MWh]	Up Quantity [MWh]	Down Quantity [MWh]	Up Amount	Down
01.03.2025 09:00-09:15	1,250000	0,000000	-487,90	0,00	1,125000	0,000000	0,000000	0,000000	0,00
01.03.2025 09:15-09:30	1,250000	0,000000	-446,82	0,00	1,125000	0,000000	0,000000	0,000000	0,00
01.03.2025 09:30-09:45	1,250000	0,000000	-425,94	0,00	1,125000	0,000000	0,000000	0,000000	0,00
01.03.2025 09:45-10:00	1,250000	0,000000	-487,90	0,00	1,125000	0,000000	0,000000	0,000000	0,00
01.03.2025 10:00-10:15	1,250000	0,000000	-455,18	0,00	1,125000	0,000000	0,000000	0,000000	0,00
01.03.2025 10:15-10:30	0,876667	0,000000	-277,01	0,00	0,789000	0,000000	0,000000	0,000000	0,00

Open Data

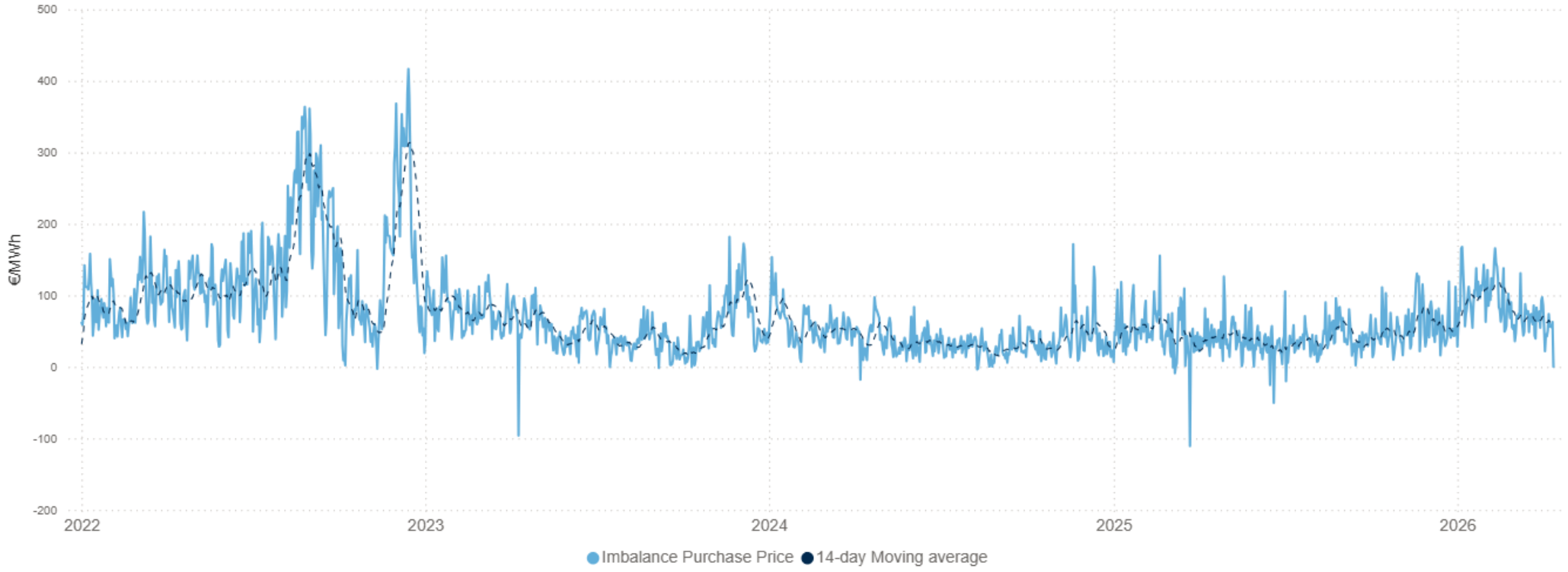
- Sisältää monenlaista dataa avoimesti saatavilla:
  - Osapuoli- ja mittausaluetietoja
  - Hinnat
  - Kulutus-, tuotanto- ja tasepoikkeamatietoja
- Käytettävissä kahdella tavalla:
  - **Websivu:** Käyttöliittymä datan selaamisen taulukko- ja kuvaajamuodoissa (https://opendata.esett.com/)
  - **Open Data API**: Kaikki data on saatavilla myös API:n kautta (https://api.opendata.esett.com)



Havaintoja markkinasta

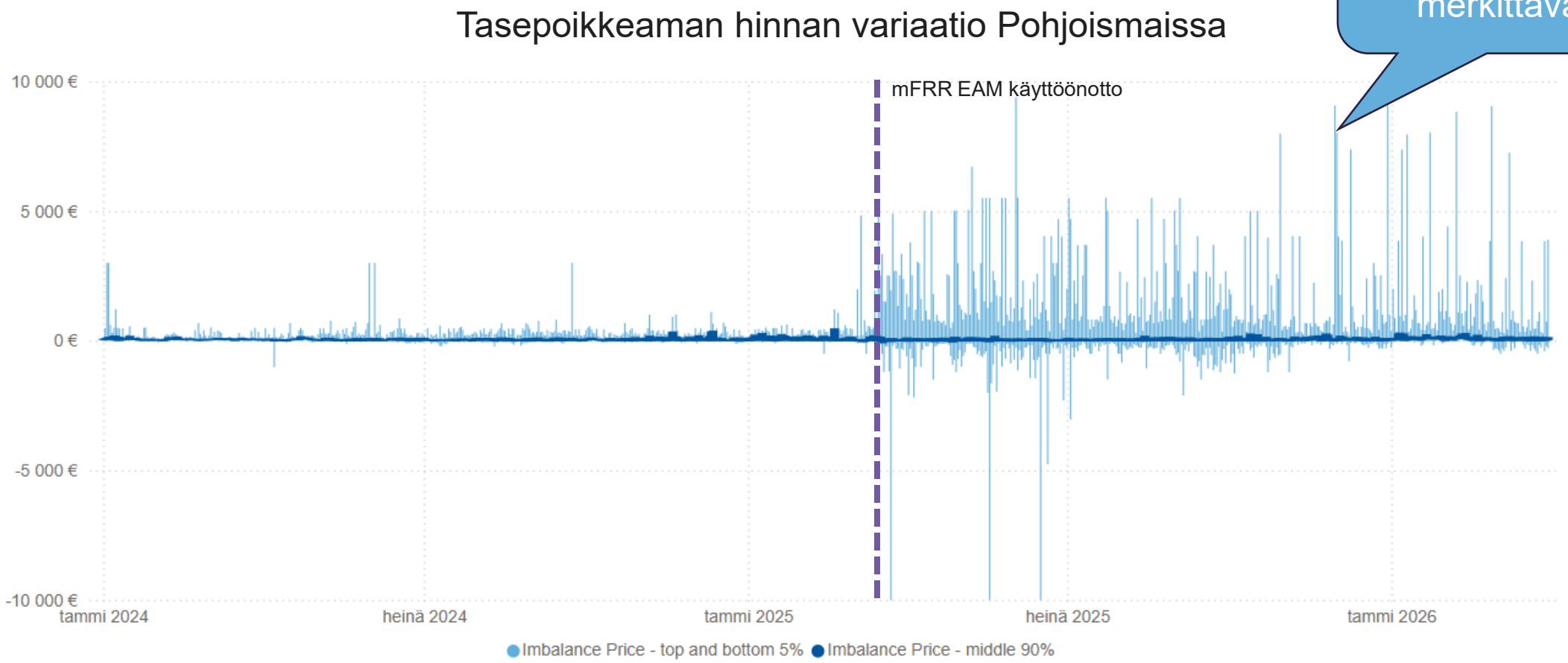
Tasepoikkeaman hinnat

Tasepoikkeaman hinnan keskiarvo Pohjoismaissa



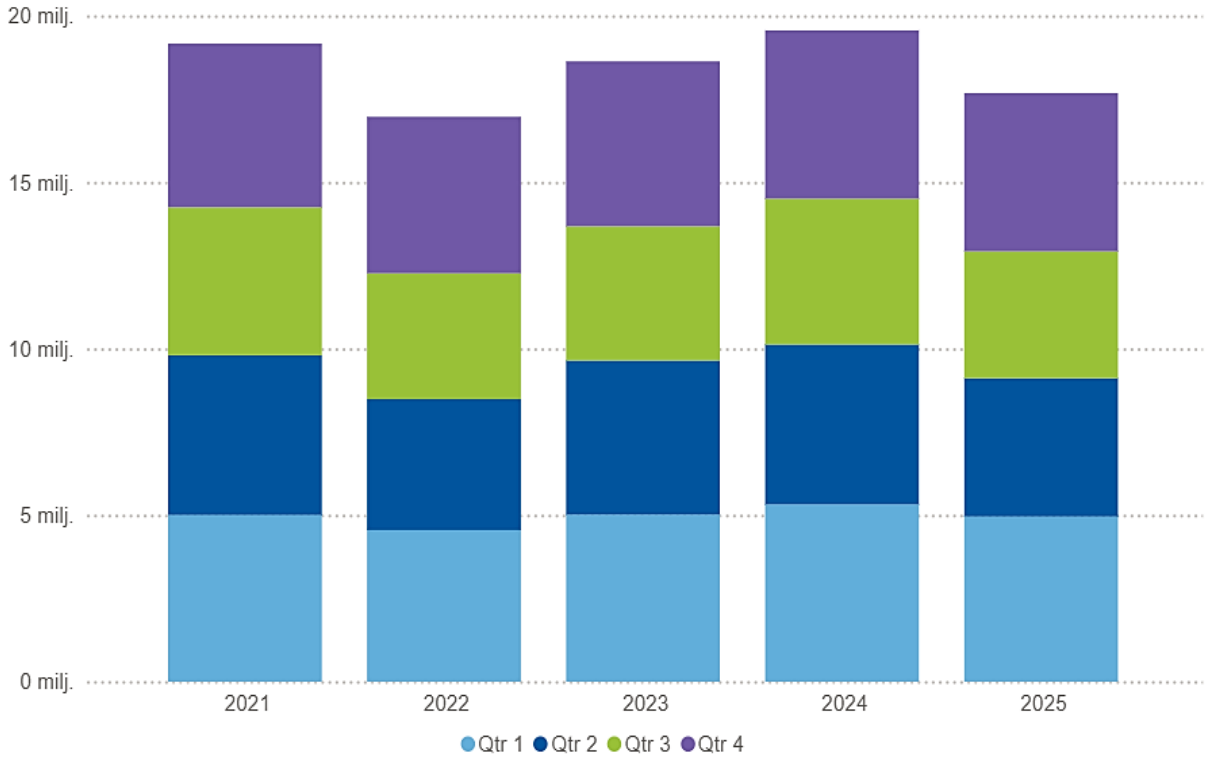
Tasepoikkeaman hinnat

Varianssi on kasvanut merkittävästi

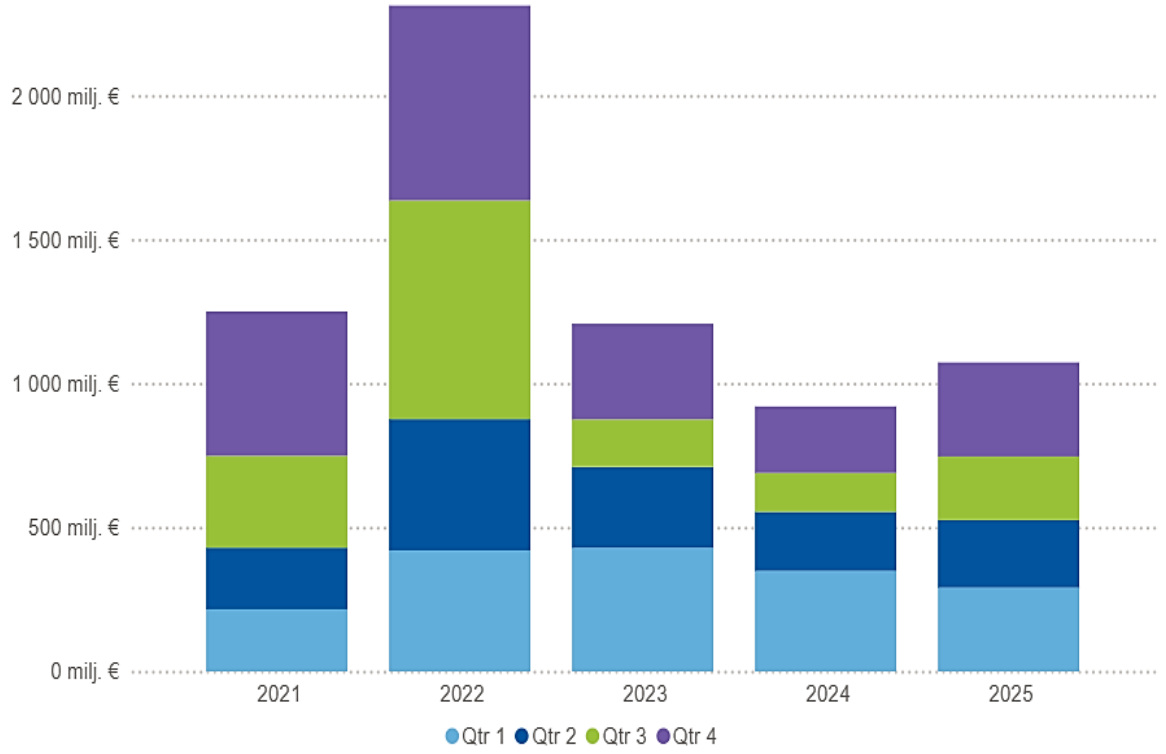


Tasesähkön määrä ja kustannus

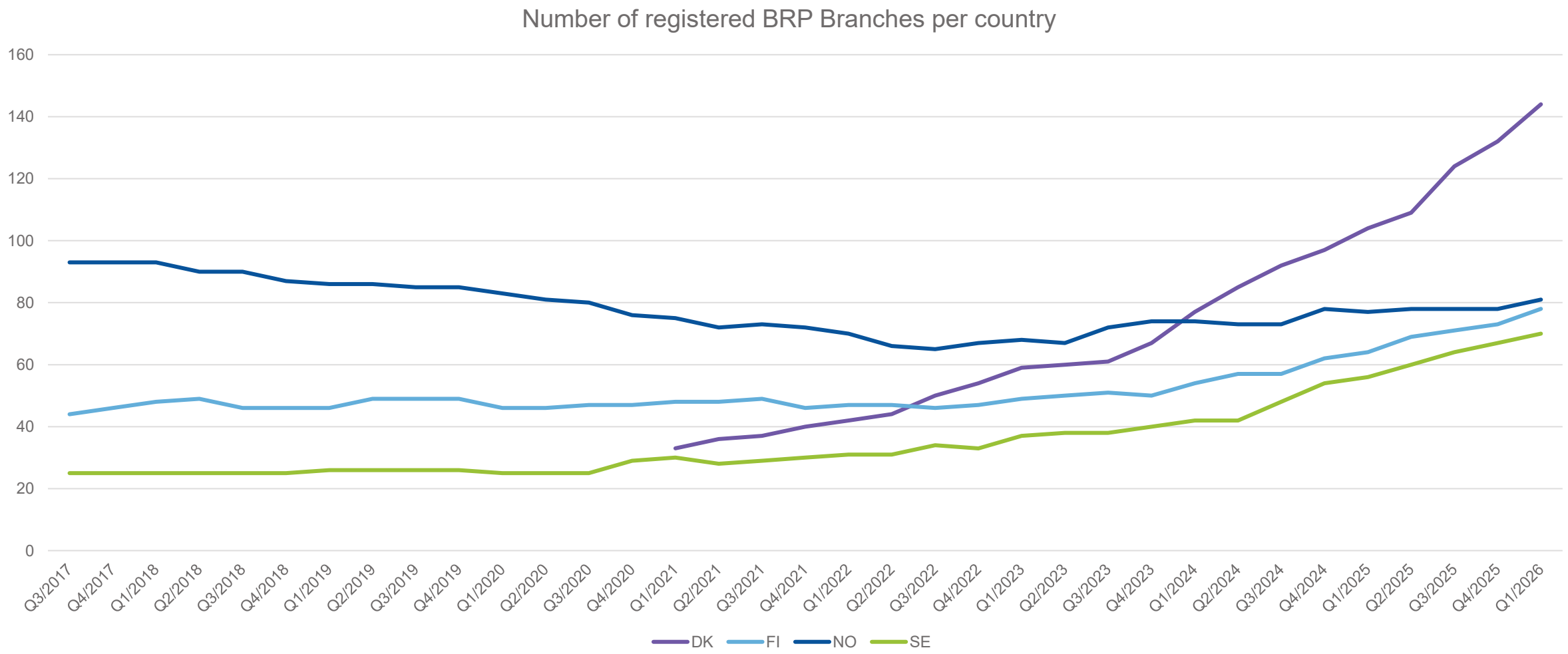
eSett tasesähkön myynti (MWh)



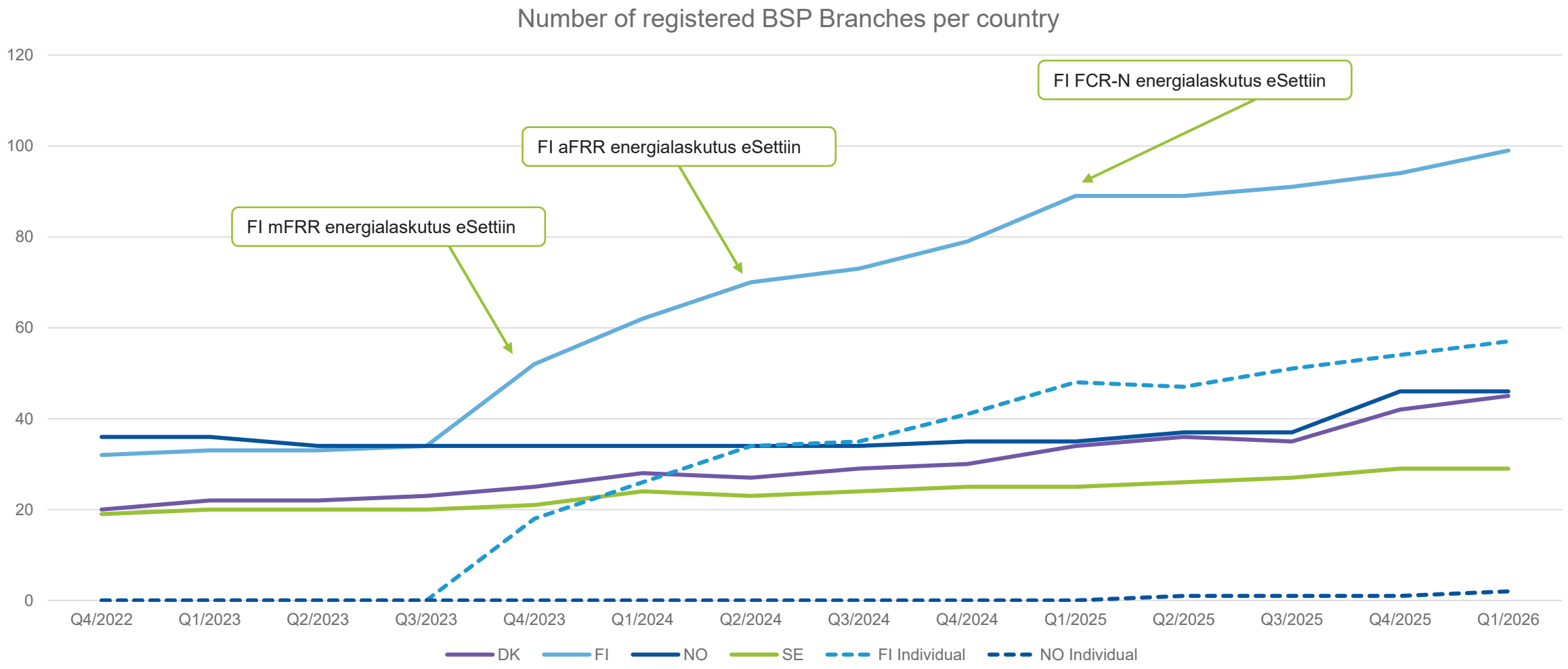
eSett tasesähkön myynti (€)



Osapuolten määrät



Osapuolten määrät




eSett
WE SETTLE, TOGETHER!

Thank you

FINGRID

29.4.2026

Marko Juslin, Fingrid Datahub Oy

Development of Balance Settlement in Datahub

fingrid.screen.io/tase26

FINGRID

Background and Objective

FINGRID
Datahub

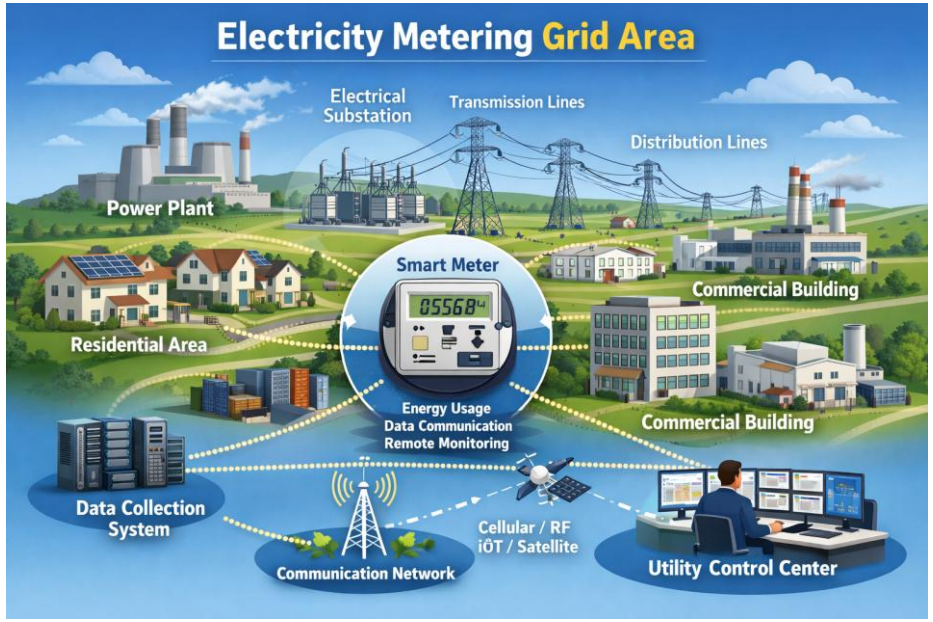
Background and objective

- Background
  - Retail market data exchange in the Datahub (including metering grid areas, metering points, metering point's measurements, contracts -> balance settlement), according to law SML § 49a.
  - In several European countries, the retail market refers to electricity supply to all end customers, not only through distribution networks.
- Objective
  - Complete data exchange of the electricity market in Datahub: all metering grid areas, metering points,metering point's measurements, contracts -> **balance settlement in Datahub**.
  - The goal is to develop the entire electricity market as well as Fingrid Oyj and its customer operations.
  - The Datahub is a centralized platform for electricity market data and data exchange in Finland. It enables the development of many current processes without major changes: **balance settlement for metering grid areas outside Datahub**, transmission network billing measurements, guarantees of origin measurements, etc.
  - Better conditions for future projects, such as legislative initiatives: Flexibility information system, independent aggregation further development, regulation of retail sales prices, etc.

FINGRID
Datahub

Preliminarily identified benefits and opportunities

- **Measurement-responsible** network companies (distribution network companies, regional network companies, etc.) that have measurements both inside and outside the Datahub:
  - Network companies do not need to maintain imbalance settlement calculations for networks outside the Datahub, including information exchange with eSett.
  - They can deliver measurement data to Fingrid Oyj through a single window principle (Datahub), eliminating the need to maintain different data exchange methods (EDI).
  - They can also utilize the Datahub for bilateral data exchange (using authorization functionality), avoiding bilateral data exchange solutions (EDI, etc.).
  - The implementation of the Datahub is quick and cost-effective because many network companies (or their service providers) already support the Datahub's data exchange method and use the Datahub.



FINGRID Datahub

Preliminarily identified benefits and opportunities

- Grid companies of property networks (industrial networks, production networks):
  - Is there a desire to enable the same benefits as for measurement-responsible grid companies?
  - Challenges: Not everyone likely has the existing capabilities to use Datahub's data exchange method, requires implementation of Datahub integration (as a service or self-implemented).
- Other parties utilizing measurement data (**balance responsible parties**, service providers, sellers, end customers):
  - Data available from a single source, no need to maintain multiple measurement data solutions in different directions.
  - End customers have equal access to the markets, and sellers find it easier to sell to these networks.

Preliminarily identified benefits and opportunities

- eSett:
  - Network balancing settlement consolidated in one place, simplifying data exchange; for balancing settlement, data exchange occurs only through Datahub (regarding measurement data).
  - Unified identifiers implemented for all measurement areas
- Authorities (Energy Authority and Statistics Finland):
  - Information related to electricity consumption and production available from a single source, eliminating the need to maintain multiple measurement data solutions in different directions.
  - Regulatory reporting by all network companies through Datahub?

Preliminarily identified benefits and opportunities

- Fingrid Oyj
  - Less need to maintain direct connections with parties,
  - Opportunity to utilize Datahub data more broadly in various processes (e.g., transmission network billing, guarantees of origin, Fingrid's production networks balance settlement, further development of independent aggregators)
- Flexibility information system (required by law)
  - **No designated party or method for implementation,** but a common usage point register and uniform identifiers for flexibility resources would facilitate the processes and implementation of the flexibility information system

FINGRID
Datahub

All measurement areas to the Datahub service?

- Information exchange becomes standardized, faster, and simpler
- The need for bilateral information exchange decreases
- Balance calculations and reporting for all metering grid areas to eSett are handled centrally
- Measurement data delivered to Fingrid is provided centrally and in a standardized manner
- The upcoming flexibility information system will benefit from standardized identifiers as well as a centralized measurement point register and measurement database
- A service covering all metering points will elevate reporting and information sharing capabilities to a new level

Importing metering points outside distribution networks into the Datahub service and defining the responsibilities of new roles require a significant legislative change, which is not currently planned.

The project requires careful preparation and extensive stakeholder collaboration. Fingrid Datahub will continue the discussion about the project across various forums.

FINGRID Datahub

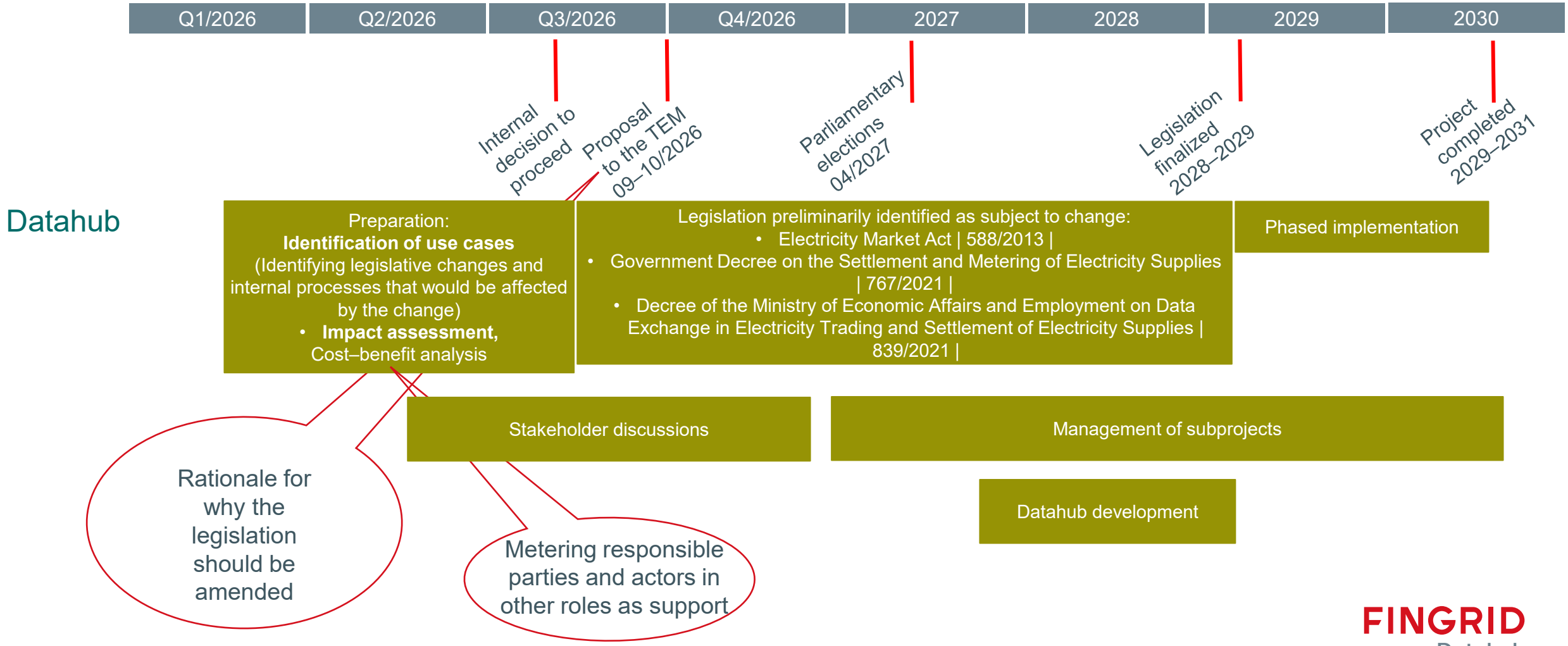
Three theses

- **The information model and technology for data exchange should be harmonized.**
  - The harmonization of identifiers plays a key role.
- **Data exchange should better support the sharing of diverse data products.**
  - Not only the integration of standardized business processes.
- **Centralized data exchange is a deliberate choice**
  - Any situation where metering points remain outside the centralized service must be temporary.

Schedule and Steps

FINGRID
Datahub

Progress plan, all measurement areas



FINGRID
Datahub

Comments or questions?

- How does this project appear from the perspective of balance-responsible parties or others involved in these matters?

Thank you!

Fingrid Datahub Oy
Läkkisepäntie 21
00620 Helsinki
PL 530, 00101 Helsinki
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FINGRID
Datahub

Thank you

FINGRID

29.4.2026

Maria Joki-Pesola, Fingrid Oyj

Summary of the Day

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FINGRID


High-quality plans and forecasts improve cost efficiency
Active markets lead to greater efficiency
Limiting the rate of change in power output supports system balancing
The development of contractual terms reflects the changing operating environment
Feedback and development proposals improve Fingrid's understanding of customer needs
fingrid.screen.io/reservit26
FINGRID

Thank you

FINGRID