BGM Partner Meeting 2026

Zurich Airport and Online Meeting, 10 November 2026



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Agenda

09:30	Welcome address	Dimitrios Nousios
09:40	Status electricity agreement between Switzerland and EU	Bastian Schwark
09:55	Swiss balance group management and operational incidents	Quirin Egli / Marko Pranjic
10:15	Status Swissgrid data publication	Edi Cortesi
10:30	New imbalance price mechanism: first months in review	Lukas Loser
11:00	Power break	
11:15	JAO updates on 15 Min products and new auction system	Thomas Kiefer, JAO Chief Operating Officer
11:35	Important updates on cross border capacity allocation	Benito Barberio
11:55	EPEX Spot updates on 15 Min products and liquidity of CH intraday market	Chiara Henle, EPEX Spot
12:15	Lunch break	
13:15	Breakout Sessions: • Unlocking hidden flexibility: Opportunities and actions in pooling, ramps and batteries • Beat the optimizer: Evolution of mFRR activation in the Swissgrid control room • The solar balancing act: Mastering PV forecasting and curtailment challenges	 Dona Mountouri / Jared Garrison Katja Möhring / Jens Hettler Raphael Wu / Quirin Egli
14:20	PV4Balancing and market design 2.0: actual status and next steps	Dona Mountouri
14:45	Feedback and questions	Dimitrios Nousios

Your contact persons for balance group management at Swissgrid



Dimitrios Nousios
Head of Market Operations



Bastian Schwark
Head of Market Strategy & Development



Marc Rüede
Head of Balance Group & Sched. Services



Jens Hettler
Head of Team System Operations Balancing & Scheduling



Thomas Hauri
Principal Market Operations
Responsible BGM Partner Meeting



Lukas Loser
Specialist Balance Group & Sched. Services
Responsible Active Balancing Committee



Quirin Egli
Specialist Balance Group & Sched. Services
Responsible BGM Expert Group

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Intraday schedule management
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Balance group registration
balancegroup@swissgrid.ch

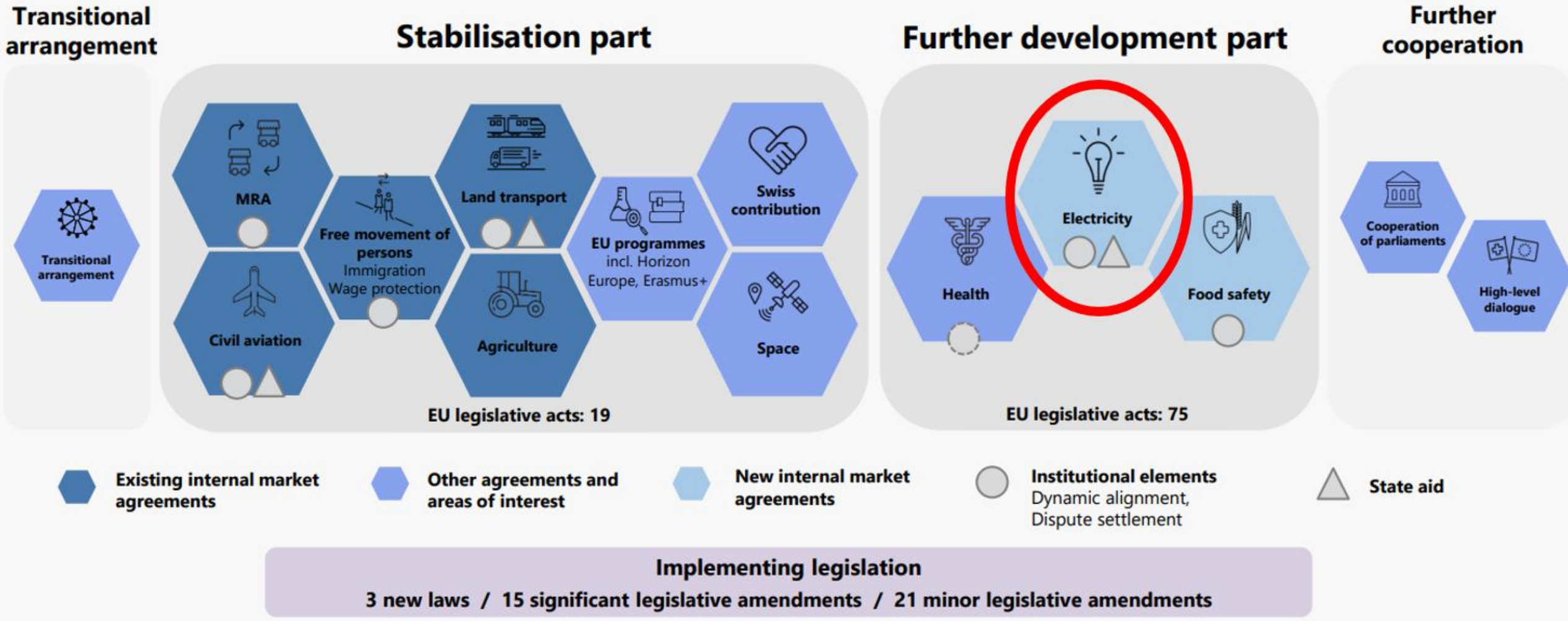
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Status Electricity agreement between Switzerland and EU

Bastian Schwark
Head of Market Strategy & Development

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Switzerland – EU package includes many individual packages



Detailed information can be found here: Package Switzerland-EU (Bilaterals III)

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The Electricity Agreement: enabling Switzerland’s integration into the European electricity market

Today

Physically interconnected, but not fully integrated

41 **cross-border transmission lines**

✓ **technical integration** where required for grid security

x **special arrangements** required for Switzerland

x **no** participation in **European market processes**

x **exclusion** from **balancing platforms**

x **legal uncertainty**

Electricity Agreement



Future

Full participation in European market processes

✓ Participation in **cross-zonal capacity calculation** on an equal footing with EU TSOs

✓ Participation **in European Market Coupling**

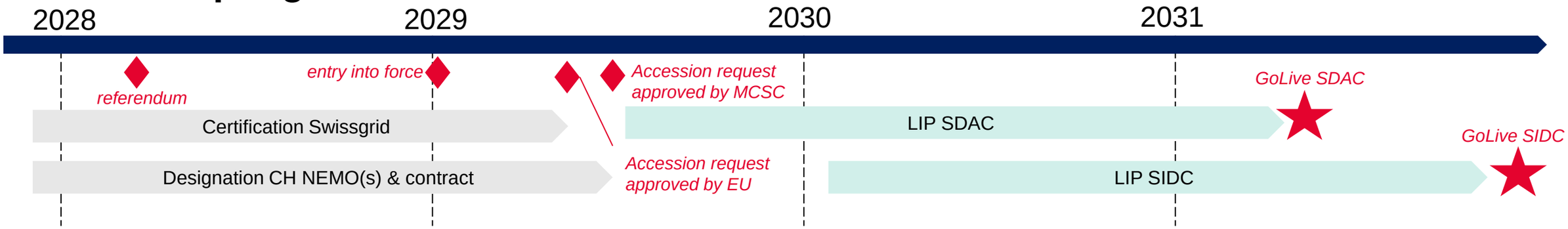
✓ Integration into **European balancing platforms**

✓ **highest efficiency** from CH and EU perspective

✓ stable legal framework

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A positive referendum initiates a multi-year implementation path towards European Market Coupling



Political, regulatory and contractual prerequisites

- Positive Referendum
- Entry into force of the Electricity Agreement
- Implementation into CH law
- Swissgrid certification
- Designation of CH NEMO(s)
- EU/ MCSC approvals

Swissgrid readiness activities

- Gap analyses & specifications
- Preparation of IT systems and processes
- Implementation and Testing

European Market Coupling implementation

- Formal accession request
- Separate SDAC and SIDC local implementation projects (LIP)
- Appr. 18 months per project



(*) based on SWG internal assessment

Swissgrid has already today launched an internal project to prepare for the integration of the Switzerland into European market coupling and to identify and address the gaps in our systems and processes

Swiss balance group management

Quirin Egli
Specialist Balance Group & Sched. Services

Marko Pranjic
Head of Energy Data & Settlement Team

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Few new registrations this year

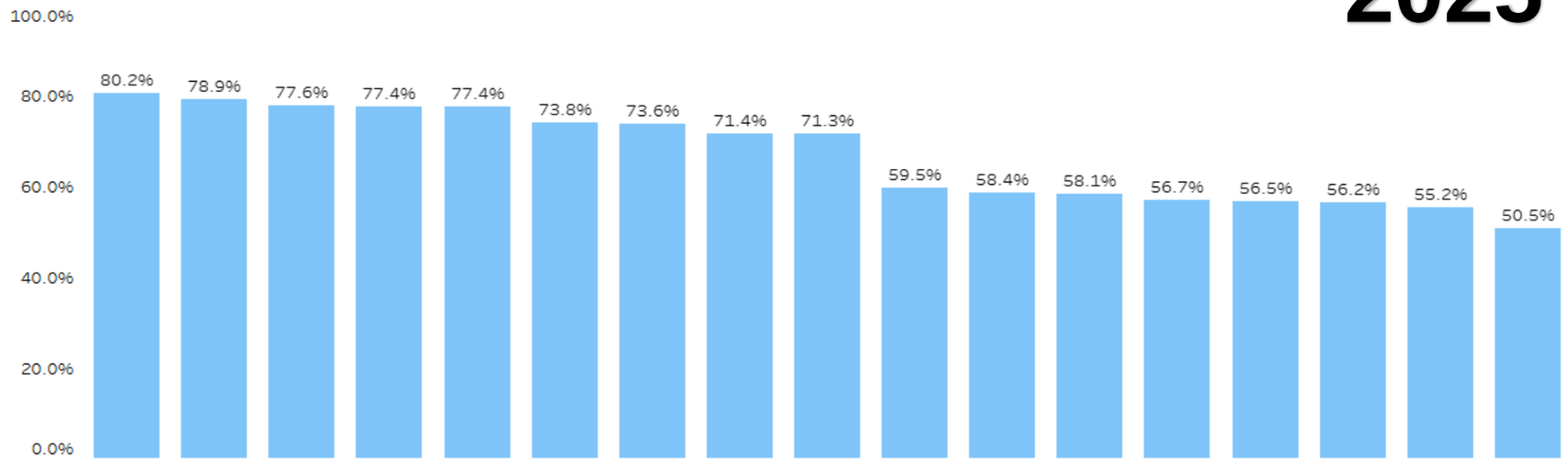
	BGs	↓	↑
2022	107	2	5
2023	111	3	7
2024	116	7	12
2025	127	3	14
2026	**138**	**4**	**15**

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Benchmark

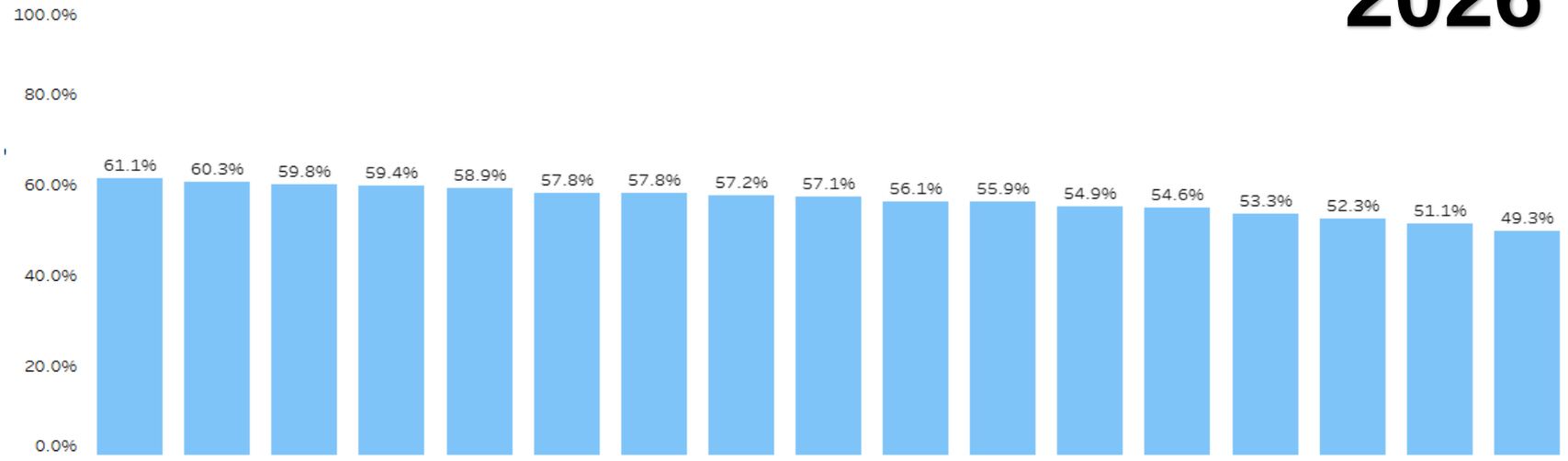
Benchmark 5
How often does a balance group have a destabilizing position?

2025



Benchmark 5
How often does a balance group have a destabilizing position?

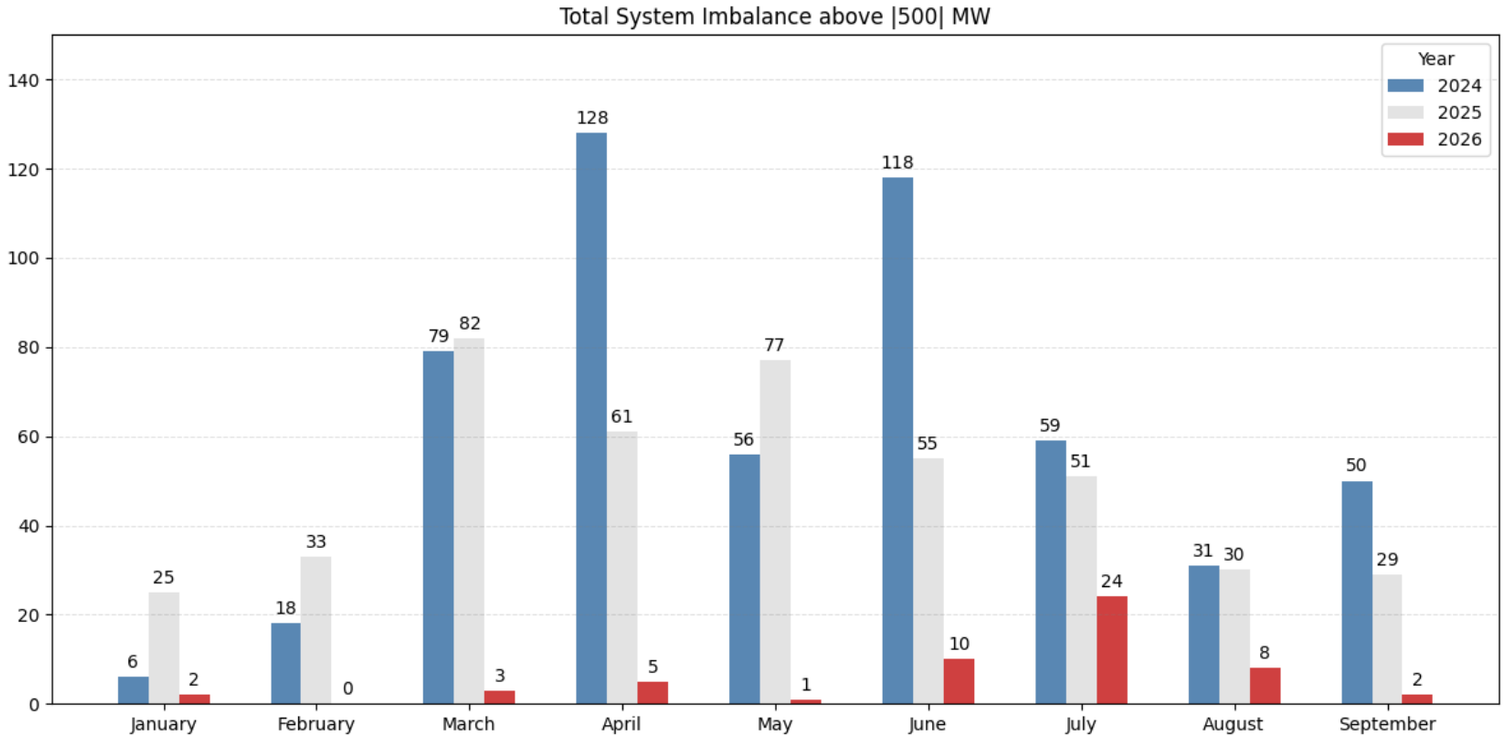
2026



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New challenges

- More zero crossing **+16%** than 2025
  (2025: 5’353 / 2026: 6’186 – 01.01-15.09)
- Forecasting is becoming **more challenging** as the traditional **PV generation curve** becomes **less** pronounced.



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Data publication

26 October 2026 **Control Area Balance (daily) 14:00**		CSV ↓
26 October 2026 **Control Area Balance (daily) 14:00**		XLSX ↓
26 October 2026 **Control Area Balance 2026 (yearly) 06:26**		XLSX ↓
26 October 2026 **Control Area Balance 2026 (yearly) 06:19**		CSV ↓

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Amendments to the Balance Group Agreements

- **Appendix 1: General Balance Group Regulations**

2.4.2.2 “Increase in collateral for balance groups with metering points”:

Reduction of the factor used to calculate the bank guarantee from 3.0 to 2.5.

7.1 “Price mechanism for imbalance energy”:

Additional clarifications, including specific and rare cases

7.3 “Billing process”:

Settlement will now be based on the 16th working day after the end of the month, instead of the 28th as previously

Various adjustments:

1.6 „Authorisation“ (CBP) / 7.3 «Billing process» (interim bill)

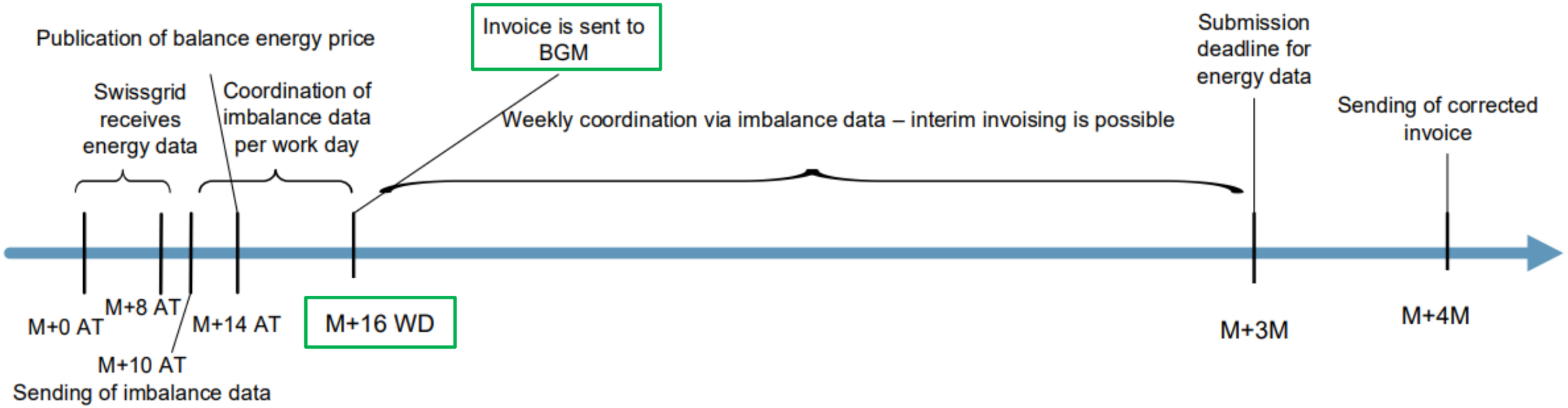
New Imbalance Settlement Timeline

Unchanged:

- Equal and non-discriminatory treatment of all BRPs
- Final imbalance price: 14th working day after month-end
- Payment: 10 days after invoicing (SEPA)

Change and Benefits:

- Invoicing: 16th Instead of 28th Working Day
- Earlier credit payments to BRPs
- Faster bank guarantee release through earlier invoicing



Status Swissgrid Data Publication

Edi Cortesi
Senior Project Manager

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Swissgrid Data Publication: Easier Access to Swissgrid Market and System Data

The project aims to provide external users with consistent, well-documented data through modern publication channels.

1 Today

- Data available through different channels and formats
- Manual downloads and fragmented access paths

2 B561 Data Publication

- Standardised data products from defined source systems
- Quality checks, documentation and consistent conventions

3 External Access

- Public web interface with tables, charts and filters
- Downloadable files and machine2machine access for automated use

What external users can expect

Explore
View data in tables and visualisations; filter and compare datasets.

Download
Export displayed data in suitable file formats

Automate
Access data through a secure and suitable machine2machine connection

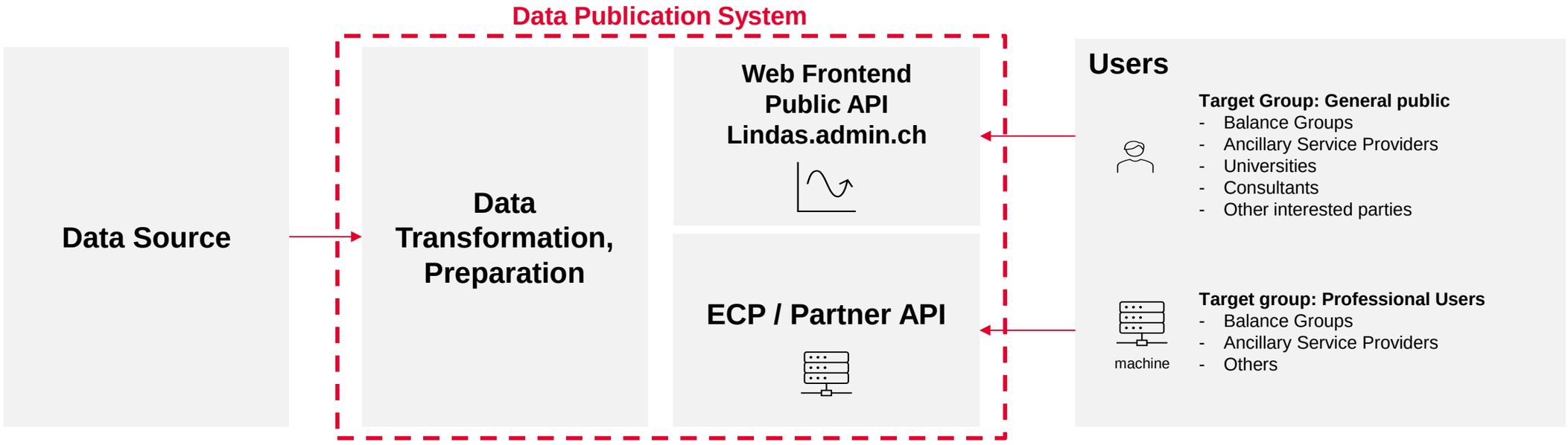
Support
Improved support for critical data

USER-CENTRED DEVELOPMENT
External market participants are involved to validate formats, interfaces and practical use cases before implementation.

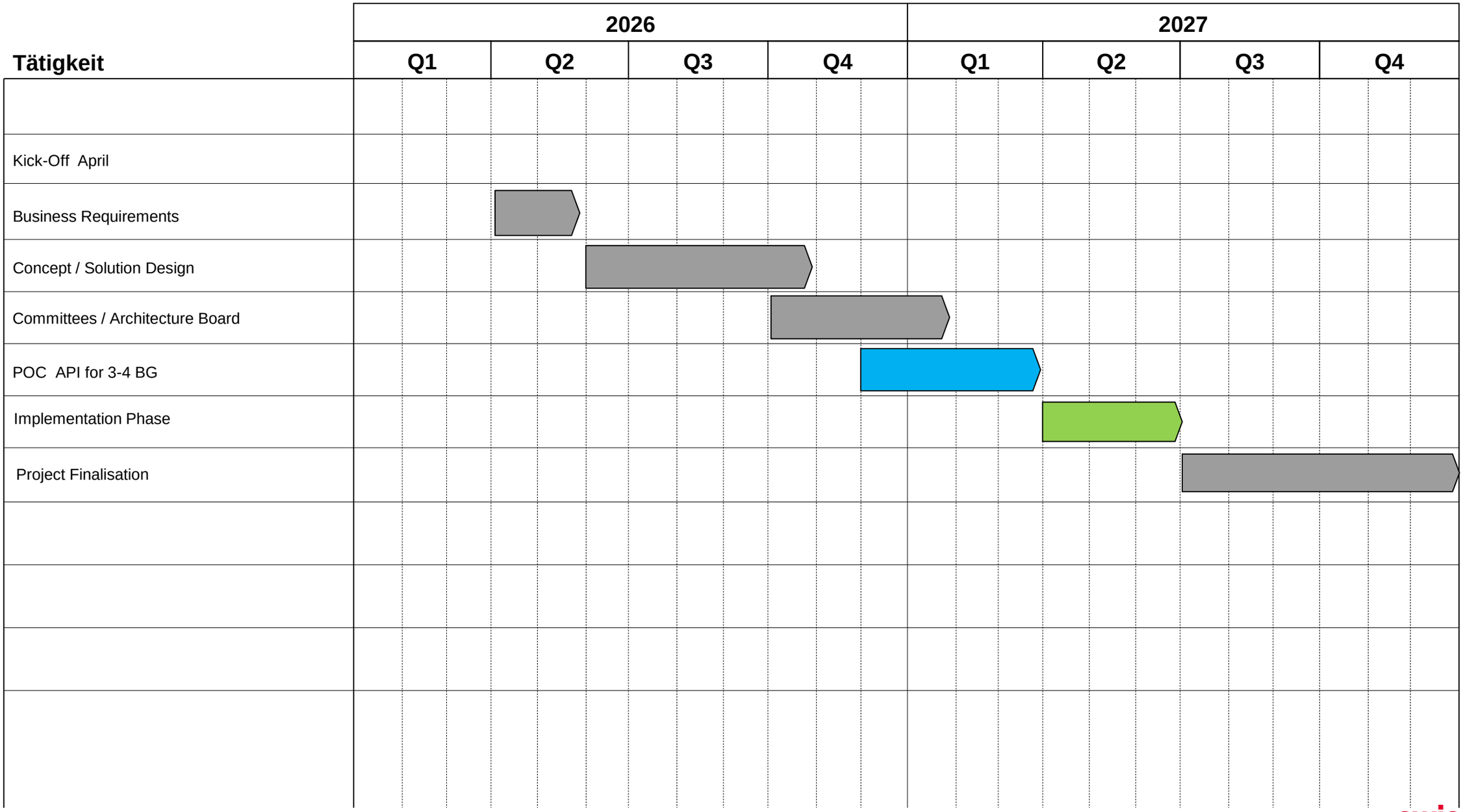
Status Swissgrid data publication: Update on challenges and time schedule

Our possibilities to change Swissgrid's data publication:

- New system for data publication web frontend and modules for data transformation and preparation.
- ECP Push or Partner API plus Public API
- Web frontend for data visualization and manual downloads with Public API
- Shortening of time between creation and publication of data, improvement of data quality.



High-Level Roadmap



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New imbalance price mechanism: first months in review

Lukas Loser
Specialist Balance Group & Sched. Services

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1 Changes in the Control Area

2 Active Balancing by Trading Balance Groups

3 Financial Impact

4 Performance-Monitoring

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1 Changes in the Control Area

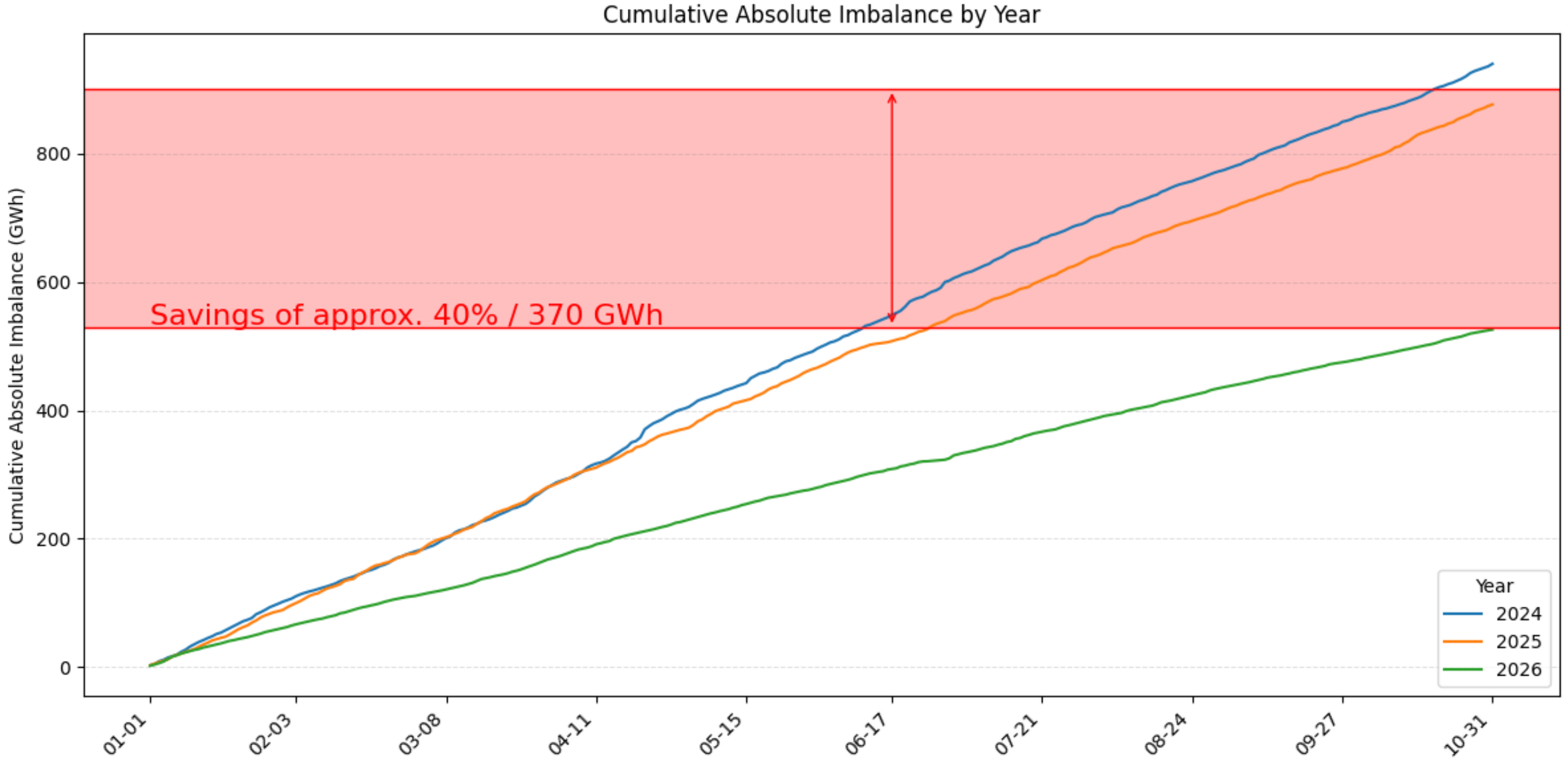
2 Active Balancing by Trading Balance Groups

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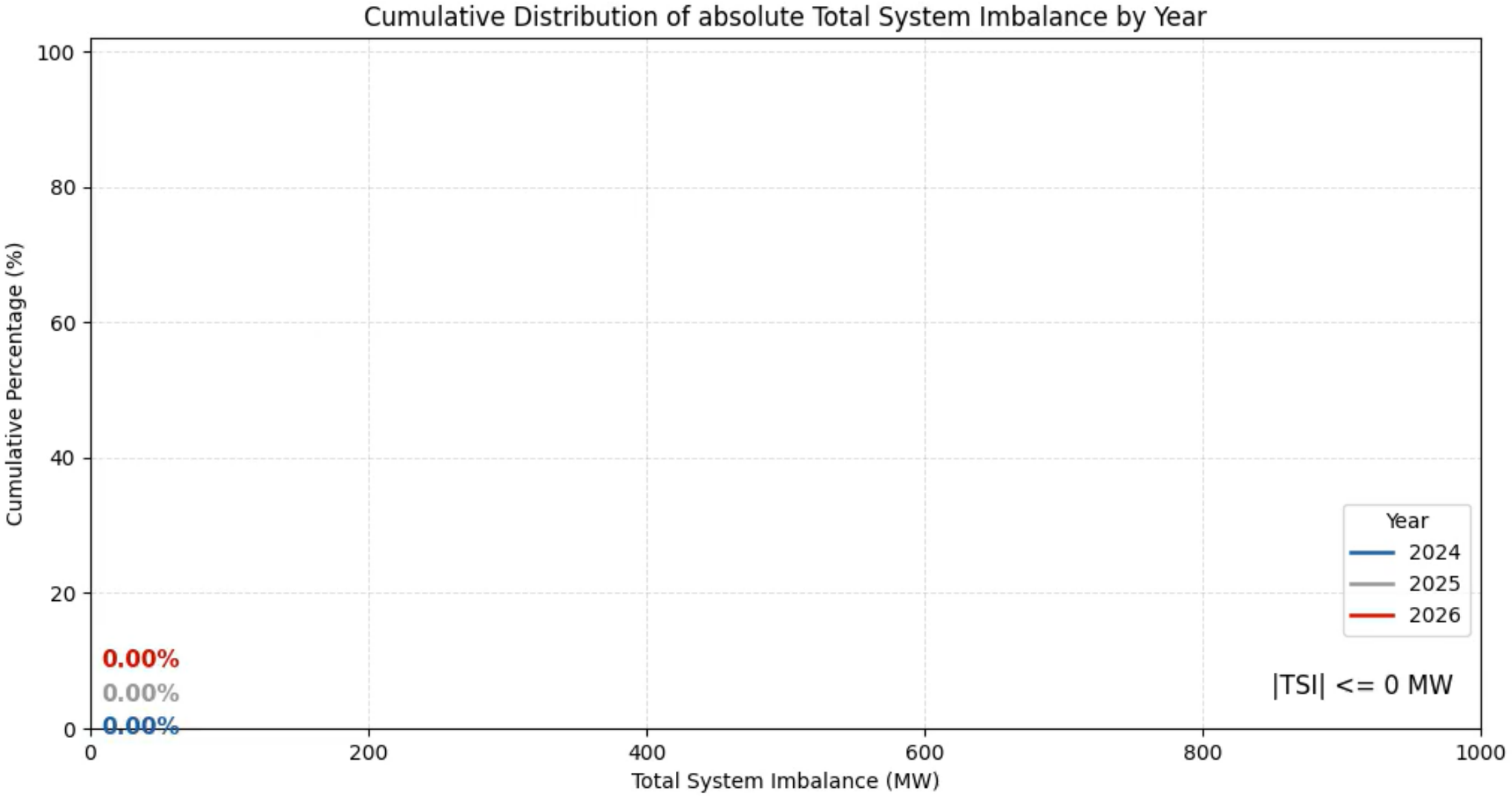
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Changes in the Control Area



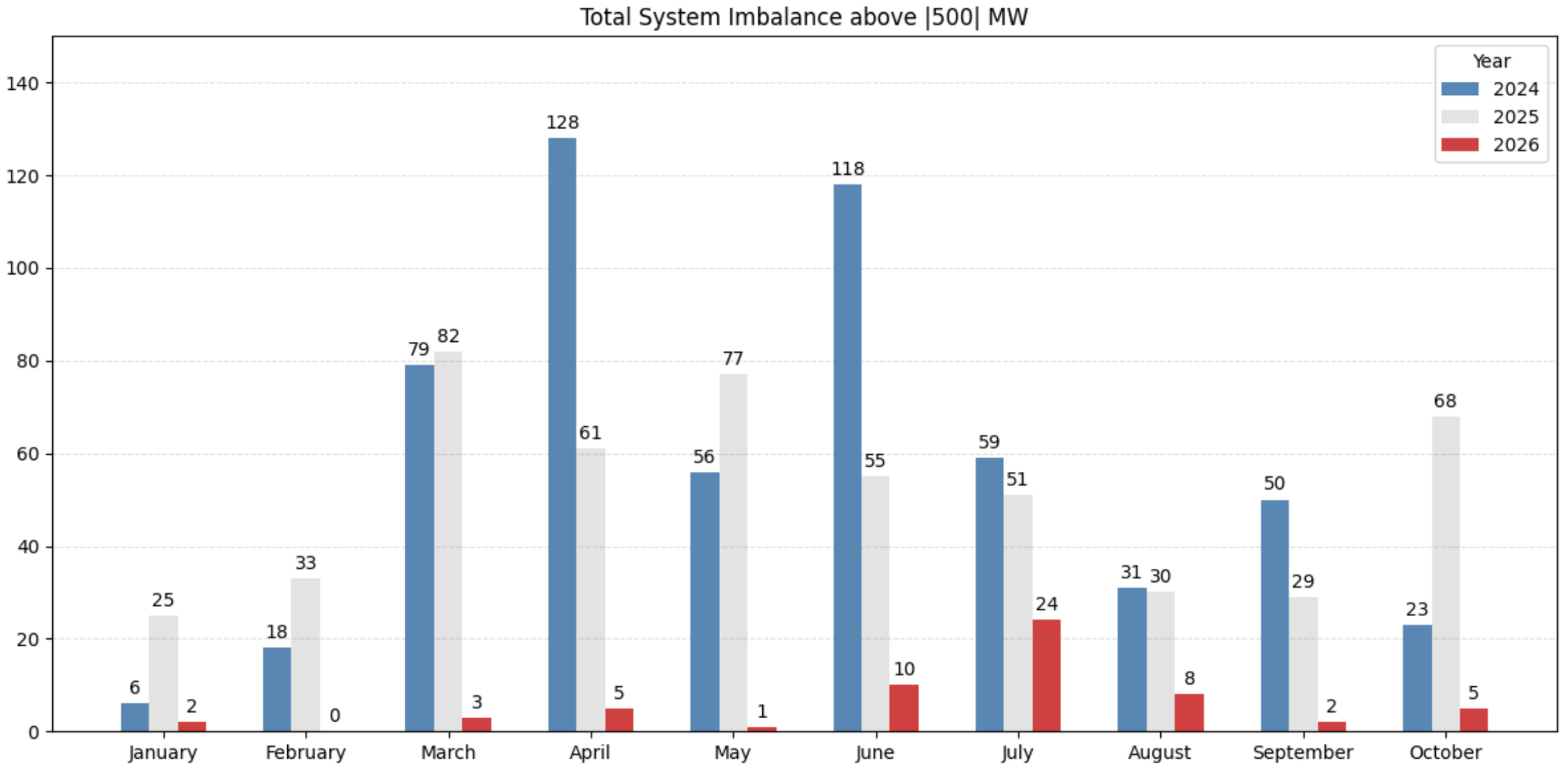
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Changes in the Control Area



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Reduction of high Imbalances



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Imbalance Reduction through Trading Balance Groups

LARGEST SHORT POSITION

451 MW

Trading balance group

LARGEST LONG POSITION

560 MW

Trading balance group

TOTAL BALANCING ENERGY SAVINGS

≈ 370 GWh

Values through the end of October

APRIL EXAMPLE

−47.8 MW

37.1% average reduction in control-area imbalance

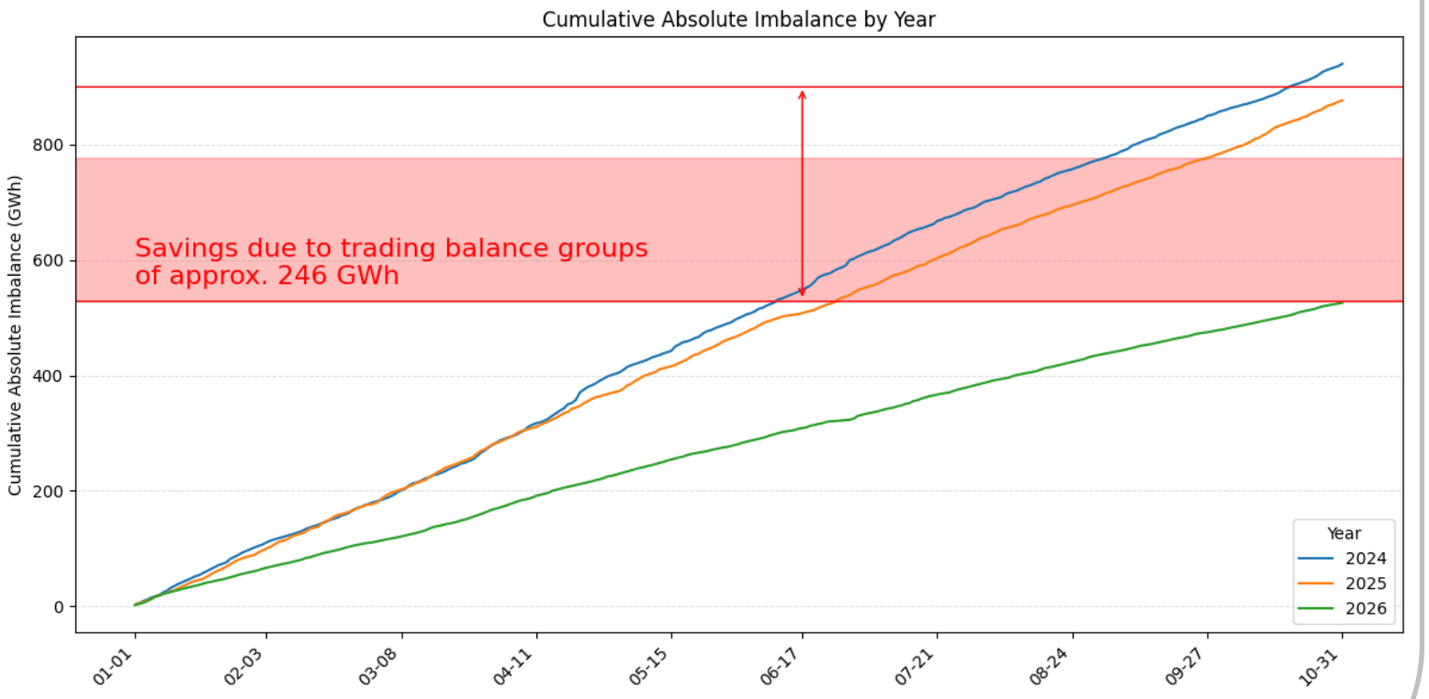
SYSTEM IMPACT

Prevents very large imbalances and supports system stability.

Cumulative Absolute Imbalance

2024–2026, values through the end of October

≈ 246 GWh lower



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Summer 2026: Extreme Events

Trading balance groups provided up to 450 MW of stabilising volume and prevented imbalances well above 1 GW (new record 1.43 GW)

450 MW
MAX. STABILISING SUPPORT

> 1 GW
IMBALANCE AVOIDED

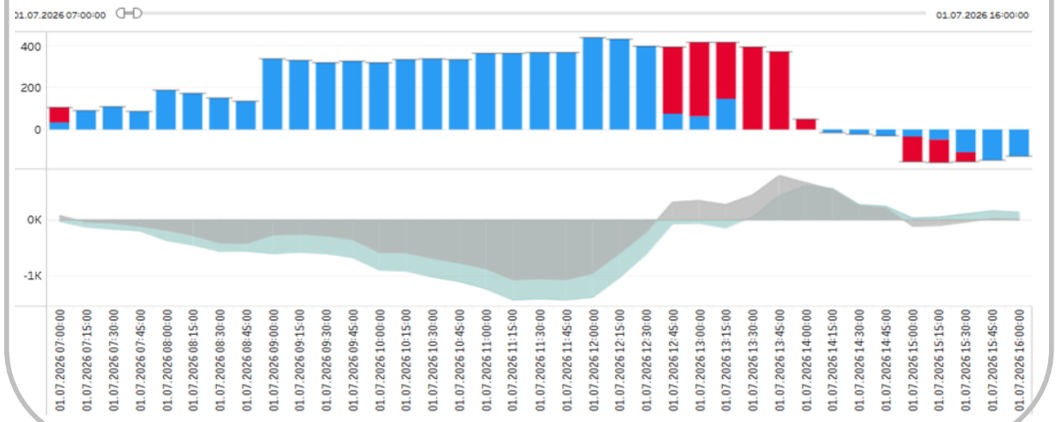
EUR 7,000/MWh
AEP WITHOUT SUPPORT on 1 July

EUR 1,873/MWh
ACTUAL AEP ON 1 JULY

- Stabilising
- Destabilising

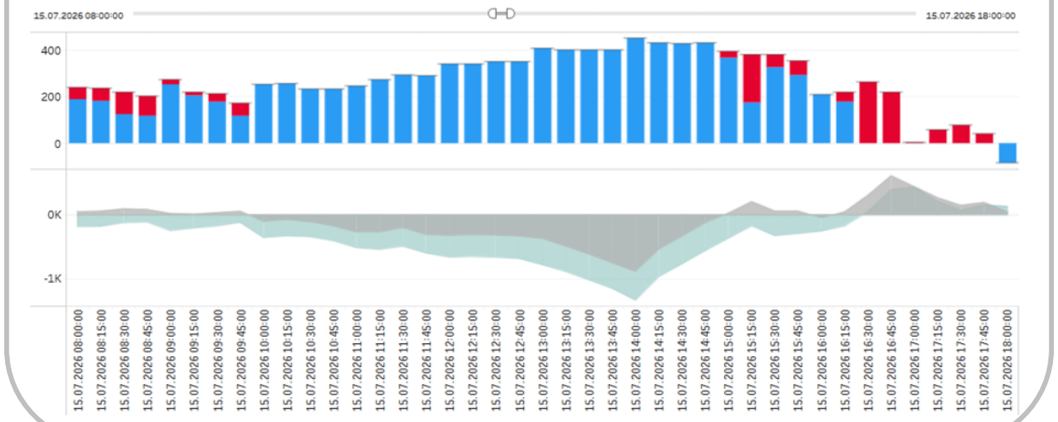
Event 1

1 July 2026



Event 2

15 July 2026



KEY IMPLICATION

As PV capacity expands, forecast accuracy becomes increasingly critical for limiting extreme imbalances and safeguarding system stability.

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1 Changes in the Control Area

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Balancing Energy Costs Fell Significantly in the First Months of 2026

Lower SRE and TRE expenditure drove savings of up to 75%, while imbalance-price revenue also declined under the new pricing mechanism

Up to 75%
REDUCTION IN BALANCING ENERGY COSTS

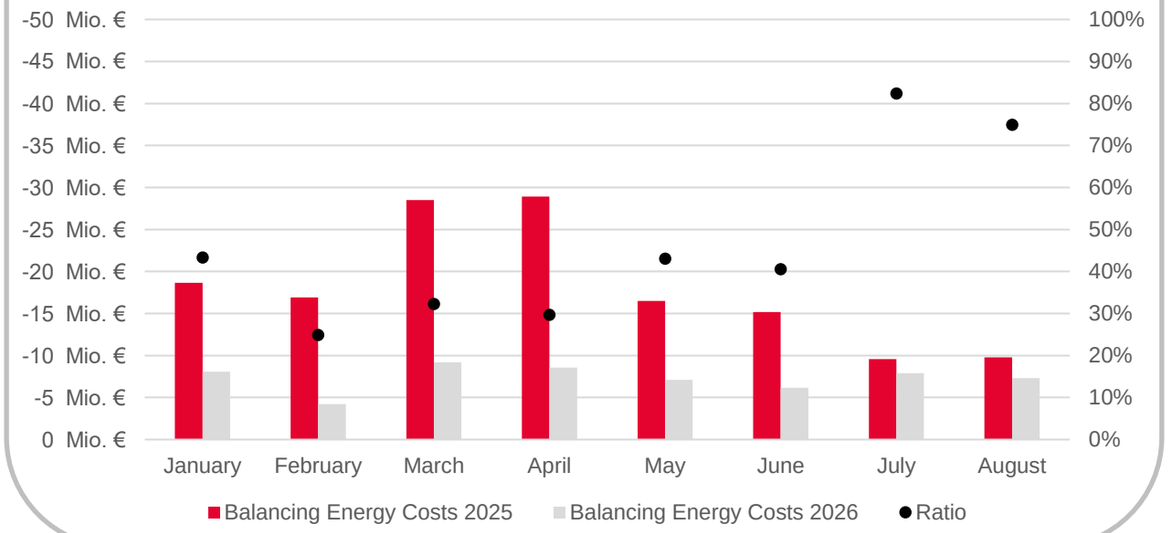
EUR 10–20m
LOWER MONTHLY EXPENDITURE VS. 2025

SRE stable
SECONDARY BALANCING ENERGY VOLUME

TRE ≈ halved
TERTIARY BALANCING ENERGY VOLUME

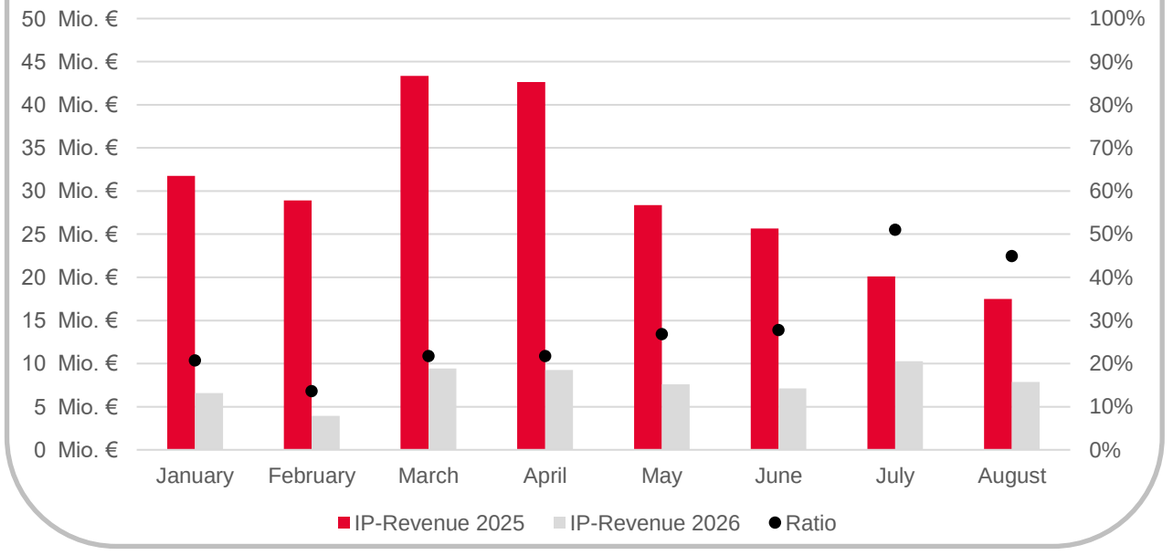
Balancing energy costs

Monthly comparison: 2025 vs. 2026



Imbalance-price revenue

Monthly comparison: 2025 vs. 2026

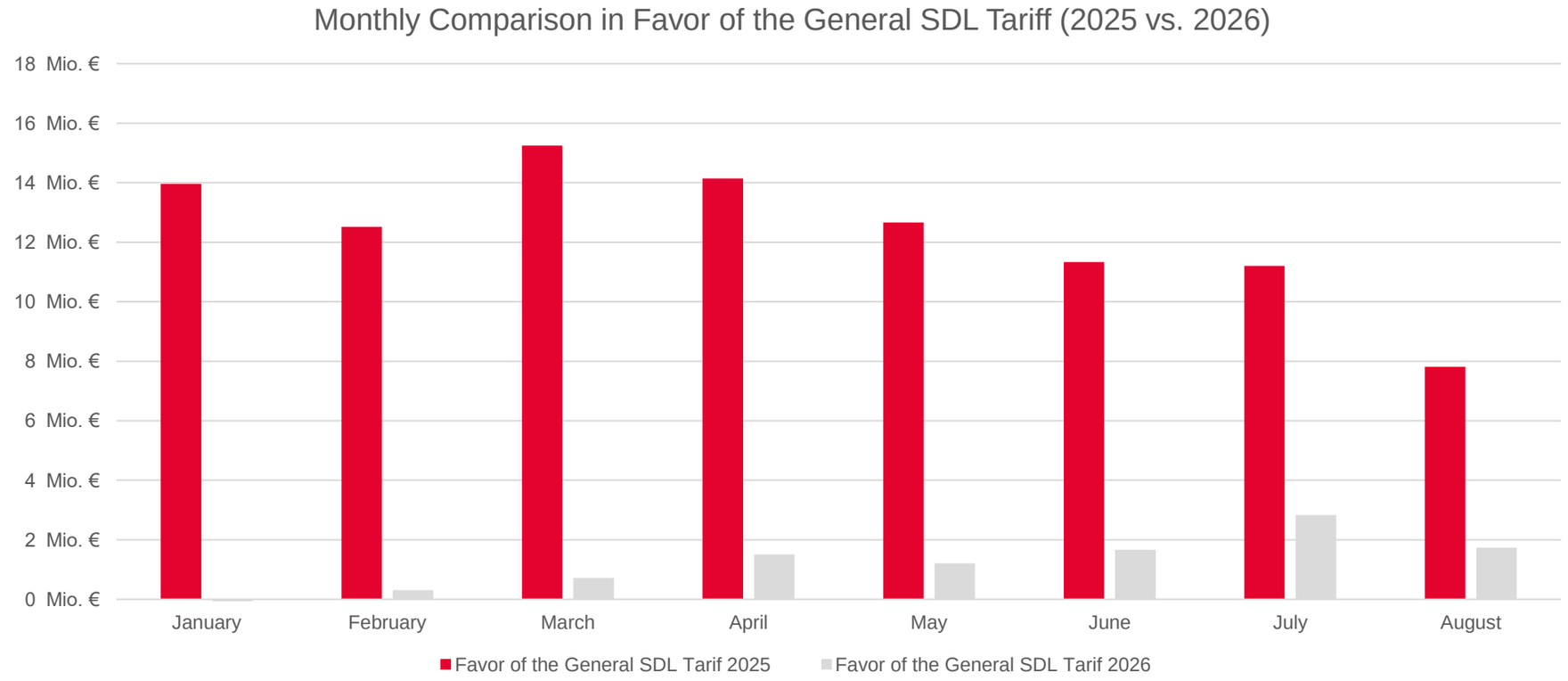


KEY TAKEAWAY **2026 shows materially lower balancing energy expenditure, although the monthly savings narrowed during the summer.**

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Lower Relief for the General SDL Tariff in 2026

Imbalance-energy revenues continue to cover balancing-energy costs, but the resulting surplus contribution to the general SDL tariff is significantly lower than in 2025.



KEY IMPLICATION **Less surplus revenue means less relief for the general SDL tariff.**

2025 and 2026 Imbalance Price: Metrics

Imbalance Price Comparison between 2025 and 2026. The Imbalance Price is calculated with the **new logic** for both years.

	MAXIMUM	EVENTS ABOVE 1’000 €/MWh	MEDIAN	EVENTS BELOW -1’000 €/MWh	MINIMUM
2026	1’873 €/MWh	11	146 €/MWh	43	– 6’885 €/MWh
2025	5’055 €/MWh	53	147 €/MWh	157	– 6’101 €/MWh

ADDITIONAL METRICS

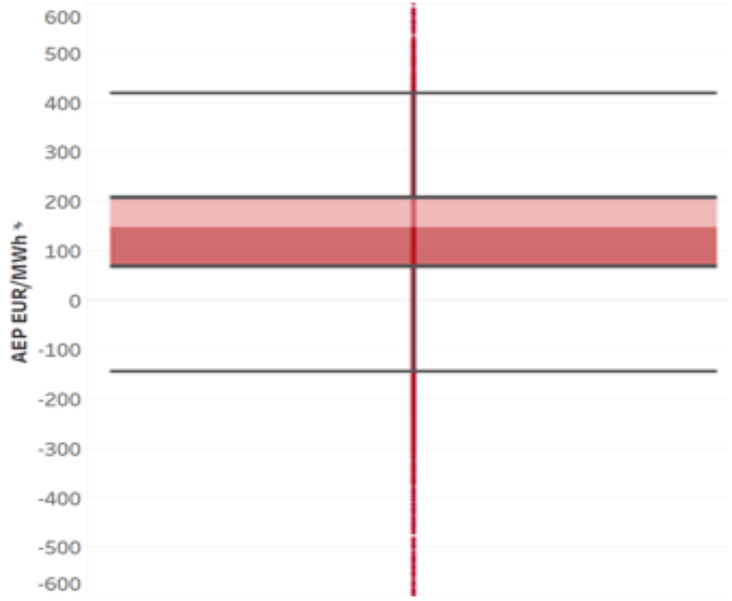
–145 to 418 €/MWh
WHISKER RANGE

66–207 €/MWh
CENTRAL 50% (IQR)

161 €/MWh
STANDARD DEVIATION

Distribution of the 2026 IP

Box plot with outliers; €/MWh
Axis fixed at +/- 600 €/MWh



KEY TAKEAWAY **Less extreme price events compared to last year, but similar median.**

* Data until 27.10.2025 / 27.10.2026

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1 Changes in the Control Area

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3 Financial Impact

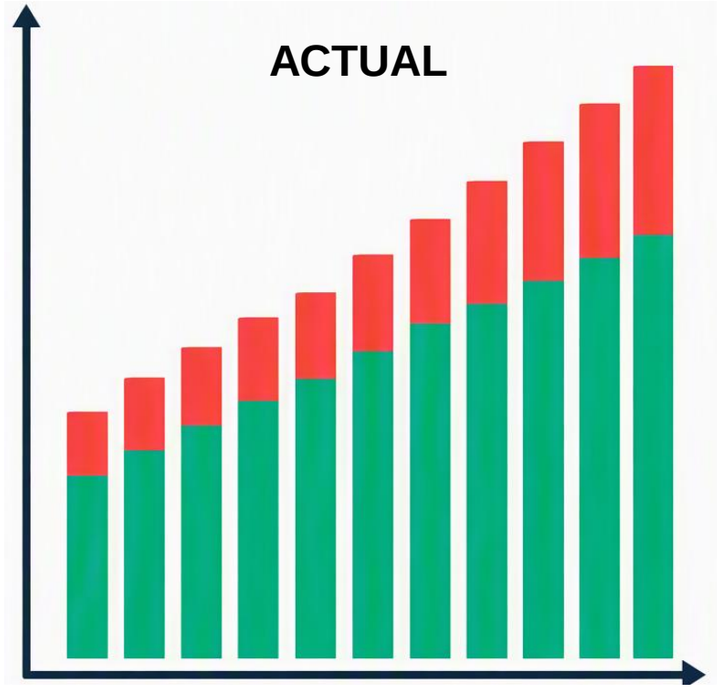
4 Performance-Monitoring

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Accounting vs. Actual Classification Logic

How stabilising and destabilising shares are attributed within one assessment period





Binary classification
If any part is destabilising (red), the entire volume is classified as destabilising.

Proportional classification
Each share is counted separately, e.g. 25% destabilising and 75% stabilising.

Accounting is binary; Actual preserves the red/green ratio.

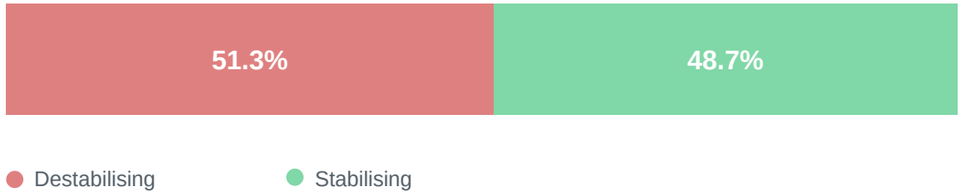
Accounting Overstates Destabilising Contributions

Actual logic allocates mixed intervals proportionally, providing a more differentiated view of stabilising and destabilising behaviour

ACCOUNTING LOGIC | Binary classification

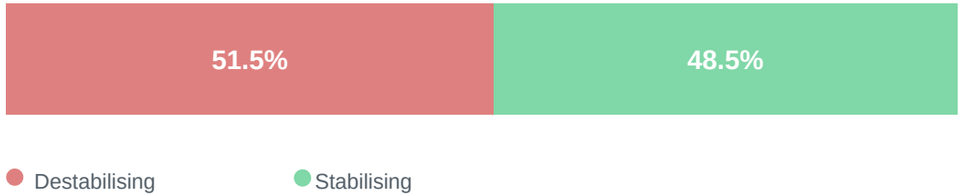
Time-based view

Entire interval receives one classification



Volume-based view

Entire volume receives one classification

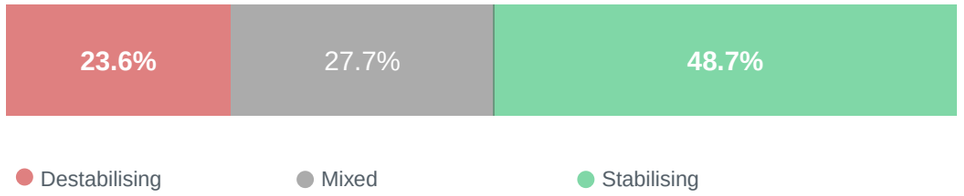


ACTUAL LOGIC | Proportional allocation

Time-based view

Mixed intervals remain visible

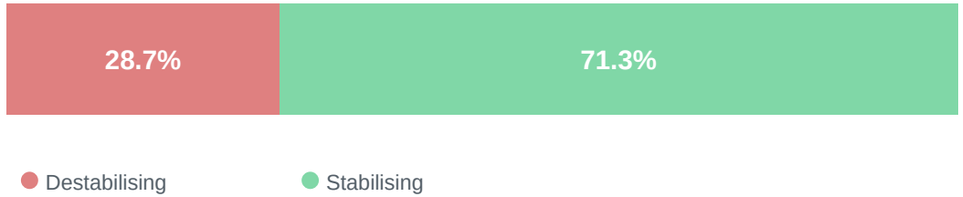
−27.7 pp



Volume-based view

Volume is allocated by actual contribution

−22.8 pp



OUR PICK **The ACTUAL LOGIC indicates how much of the volume actually supports the control area.**

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Performance Assessment: 55% Stabilising-Volume Threshold

55%
PERFORMANCE THRESHOLD

Monthly
ASSESSMENT FREQUENCY

6 months
ROLLING ASSESSMENT WINDOW

Volume-based
METRIC USED

1 Jan 2027
GO-LIVE DATE

Assessment logic

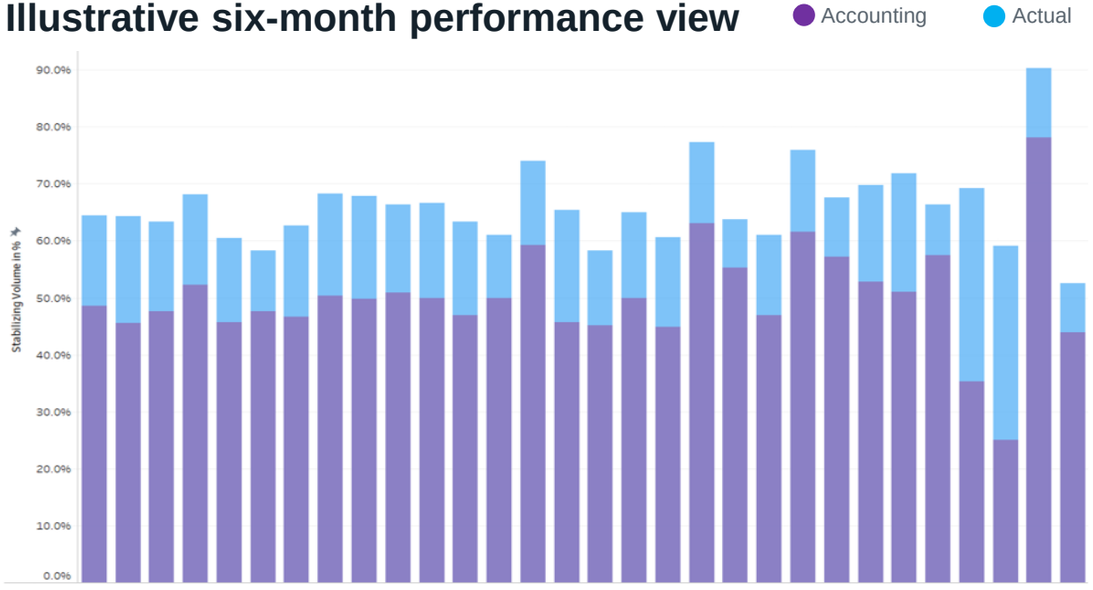
1. **Calculate the actual stabilising-volume share**
   The actual stabilising volume is calculated for each 15' and summed up monthly

2. **Calculate $F_{monthly}$ and points**
   Calculate the two metrics for the benchmarking and the internal point matrix

3. **Monthly Assessment**
   Monthly check of the rolling six-month result => potential consequences

Only data from 1 January 2027 onward is included.

Illustrative six-month performance view



TRANSPARENCY LIMITATION **Positions cannot be independently recalculated while open trading balance group positions remain unpublished.**

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INFORMATIONAL

Monthly Performance Score: Formula and Six-Month Example

During the test period, no balance group accumulated points or had a negative $F_{monthly}$ over the six-month period

CALCULATION LOGIC

1 Stabilising share

$$S_v = \frac{V_{stab-actual}}{V_{stab-actual} + V_{destab-actual}}$$

2 Performance deviation

$$P = (S_v - 0.55)$$

3 Monthly performance

$$F_{monthly} = \frac{V}{1000} * P$$

$F_{monthly}$	Points
> 0.0	-1
> -0.1	0
> -0.2	1
> -0.4	2
> -0.6	3
> -0.8	4
> -1.6	5
else	6

SIX-MONTH EXAMPLE

Month	V [MWh]	S_v	$F_{monthly}$	Points
January	9’700	0.53	-0.19	1
February	7’900	0.54	-0.08	0
March	5’400	0.61	0.32	-1
April	10’500	0.52	-0.32	2
May	4’200	0.59	0.17	-1
June	21’000	0.62	1.47	-1
6-month total			**1.07**	**0**

Potential escalation measures

1	**Written statement**	Clarify the observed performance
2	**Meeting with Swissgrid**	Discuss causes and corrective actions
3	**Temporary exclusion**	3–12 months from active balancing

INTERPRETATION **Higher stabilizing shares improve P; the total volume V scales the monthly performance factor and therefore the resulting point category.**

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Benchmarking Makes Performance Comparable and Actionable

Anonymous comparison supports participant dialogue, while defined escalation measures address persistent underperformance and financial exposure

How the benchmark works

X-axis	Participants sorted by volume (V)
Y-axis	Monthly performance factor ($F_{monthly}$)
Output	Anonymous relative performance benchmark

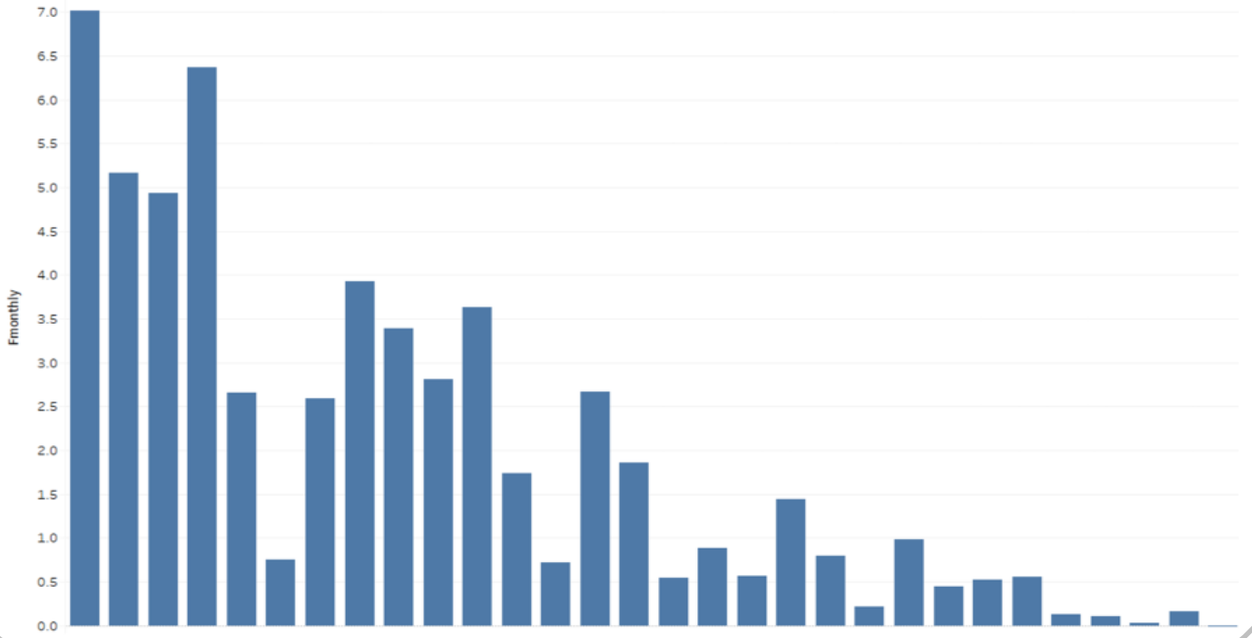
Get your Benchmark

Anonymous benchmarks are available on request

Contact: balancegroup@swissgrid.ch

Illustrative monthly performance benchmark

Participants sorted by volume on the x-axis



FINANCIAL MONITORING **Interim settlement is triggered when the current-month financial open position exceeds 50% of the bank guarantee and the balance group owes Swissgrid.**

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Active Balancing Committee – The Committee for Trading Balance Groups

Purpose

- Create a collaborative platform for active balancing participants
- Improve transparency and understanding of balancing behavior
- Identify inefficiencies, risks and potential changes early
- Enable direct exchange with Swissgrid and other participants

Working approach

- Regular committee meetings in Q2 and Q4
- Newsletters with updates in Q1 and Q3
- Ad-hoc meetings when required

Expected impact

- Improved active balancing performance across participants
- Greater market efficiency and system stability
- A practical win-win for participants and Swissgrid
- Improved processes and decisions

JOIN THE COMMITTEE

Scan to access the sign-up form

ANNUAL CADENCE

- **Q1** Newsletter
- **Q2** Committee meeting
- **Q3** Newsletter
- **Q4** BGM Partner Meeting

JAO updates on 15 Min products and new auction system

Thomas Kiefer
Chief Operating Officer JAO

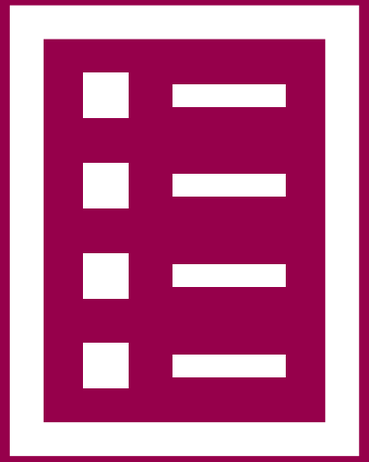
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Swissgrid Customer Forum

Agenda

1. 15 minutes MTU and block bids
2. Orion - project update



15 minute MTU and block bids

Impact for Market Participants on the Swiss borders

15-minute Market time unit change

Description is specifically for 15 min MTU change, without block bids.

What changes: the number of MTUs

1 hour → **:00** **:15** **:30** **:45**

Each hour of an auction is split into four 15 minute MTUs.

Auction	Today (60 minute MTU)	With 15 minute MTU
Per hour	1	4
Daily auction, 24 hours	24	96
Clock change days, 23 / 25 hours	23 or 25	92 or 100
Intraday auction	Number of hours	Number of hours × 4

What stays the same

Bid submission

Bids go in through the UI or the API, in the same way as today.

Bidding process

Everything else about bidding stays as it is. Only the number of MTUs per auction changes.

Output documents

Auction results, programming authorization and invoicing stay as they are. No impact for participants.

Market Participants keep their current way of working. Only the number of MTUs per auction grows.

Block bids, as divisible hourly blocks

One block covers one clock hour. Its volume can be partly accepted, its time cannot.

What a block bid is

1. **One bid per clock hour**
   A block covers exactly one clock hour: one price and one quantity for its four 15 minute MTUs.

2. **Divisible in volume, not in time**
   The accepted quantity is between zero and the quantity offered, and it is the same on all four MTUs.

3. **Cleared with the single bids**
   The algorithm maximises capacity revenue within the available capacity, single and block bids together.

4. **Submission rules**
   Block and single bids use separate Bid IDs. A participant needs different prices across its bids on each MTU.

5. **Business rules**
   Tie-breaking and pro rata rules decide between equally attractive bids.

Where we stand

1. **Earlier in 2026**
   Indivisible block bids were delivered based on an earlier design.

2. **After the consultation and NRA alignment**
   The TSOs asked for divisible blocks of one clock hour, following feedback from Market Participants.

3. **Now**
   JAO is assessing the functional and non-functional requirement of divisible block bids.

? **Decision gate**
Whether go-live of 15 min MTU will be with or without block bids is not yet known.

5. **After the decision**
   Define test phases and adjust the plan once it is decided whether block bids and the 15-minute MTU will go live together.

Allocation options for single and block bids

The alternatives differ mainly in time linkage, divisibility and optimization logic.

	Current allocation	Earlier design	Updated design
	Single-MTU bids	Indivisible blocks, any length	Divisible blocks, hourly and multi-hourly
Bid structure	One price and quantity per MTU. Each MTU is independent.	One price and quantity for all MTUs in the block. Consecutive MTUs; configurable length.	Each block starts on a clock hour, covers one or more consecutive whole hours, and carries one price and one quantity across its MTUs
Acceptance	Winning bids may be fully or partially satisfied.	All-or-nothing across the full block duration.	Partly accepted by quantity, with the same acceptance ratio on all four MTUs.
Optimization	Independent merit-order optimization per MTU.	Iterative block accept/reject decisions, then single bids fill remaining capacity per MTU.	Independent clearing per hour, with single, hourly and multi-hourly block bids optimized together.
Pricing	Marginal price per MTU,	Final price remains per MTU; an accepted block can influence which single bids are marginal.	Results return auction price per MTU and awarded quantity for each BID ID



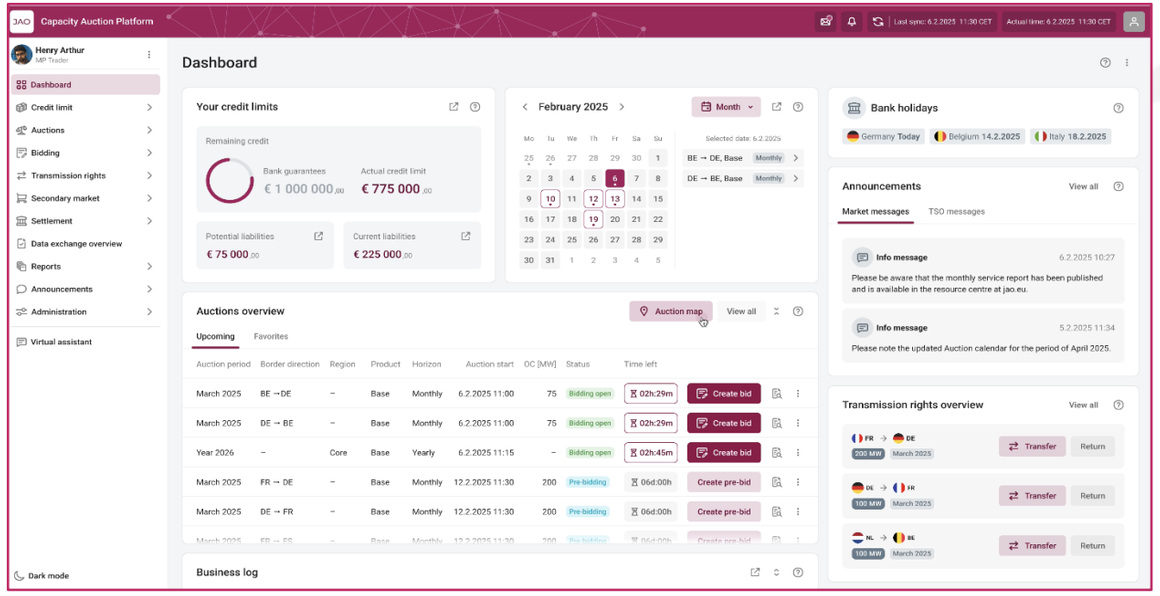
Orion – Project Update

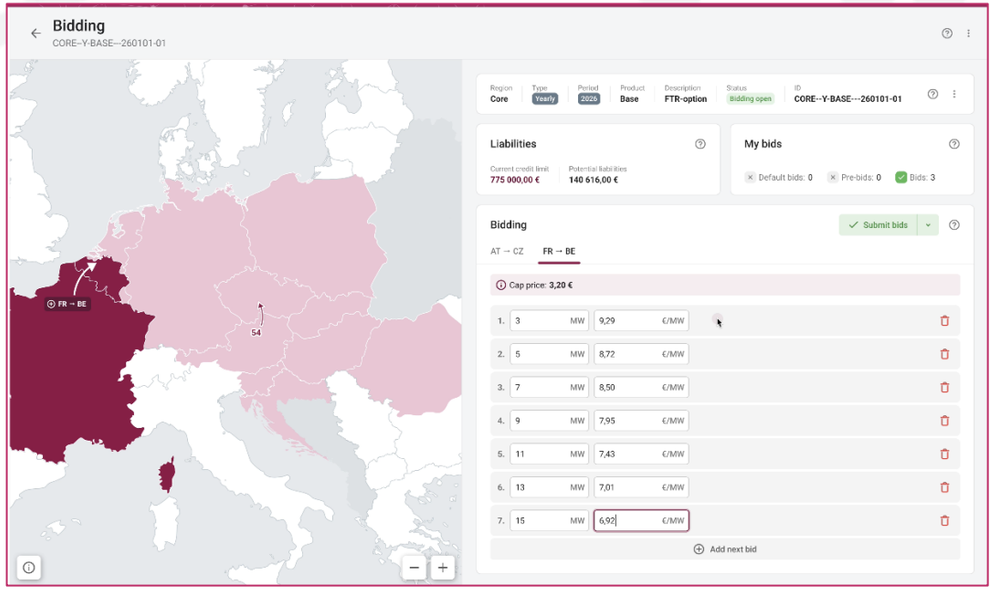
Objectives

- **User Experience**: it must be **fast, intuitive, appealing** and streamlined
- **Stability and performance**: it must be **reliable** and support market constraints whatever the volume
- **Integrability and automation**: API first architecture design as part of its fundamentals for ease and standardization of integration.
- **Autonomy**: integration of ease of life feature for clients

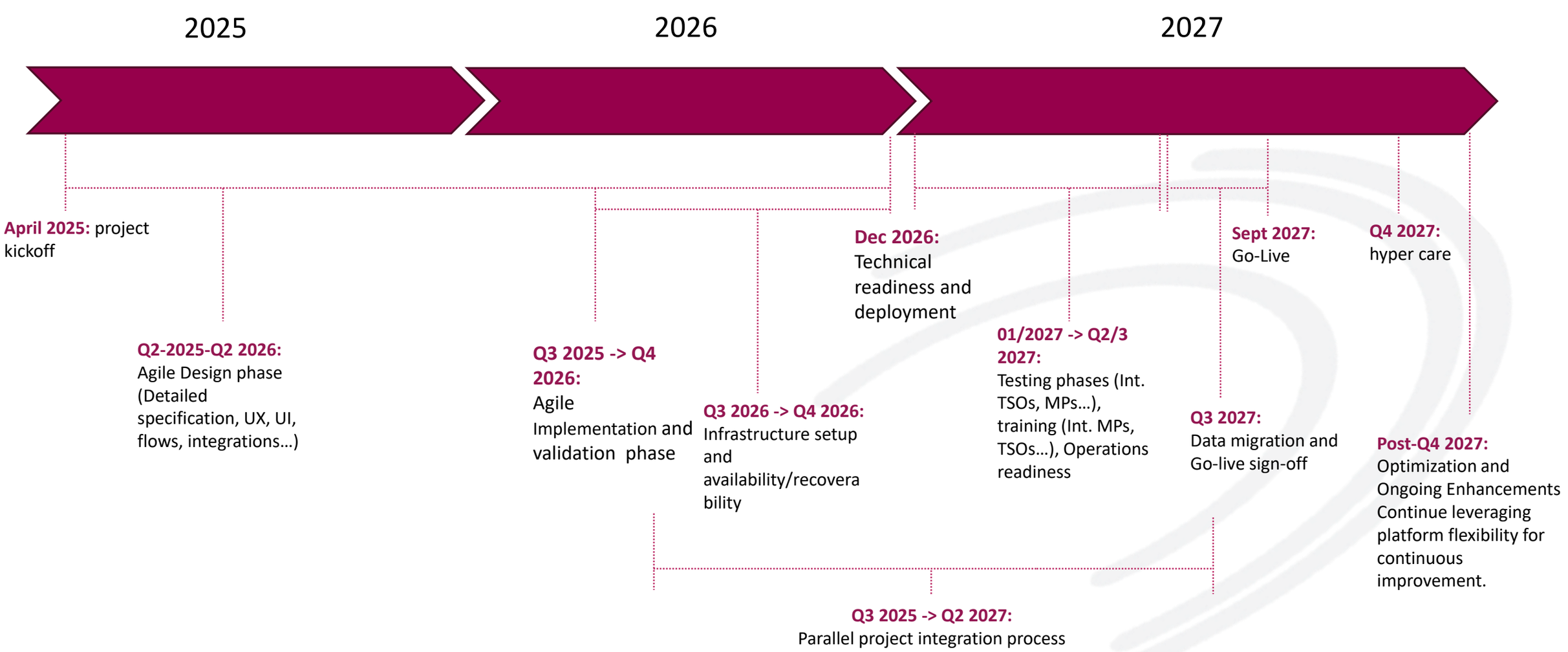
Unicorn has been selected as the provider

** Preliminary mockup design not reflecting the final product*

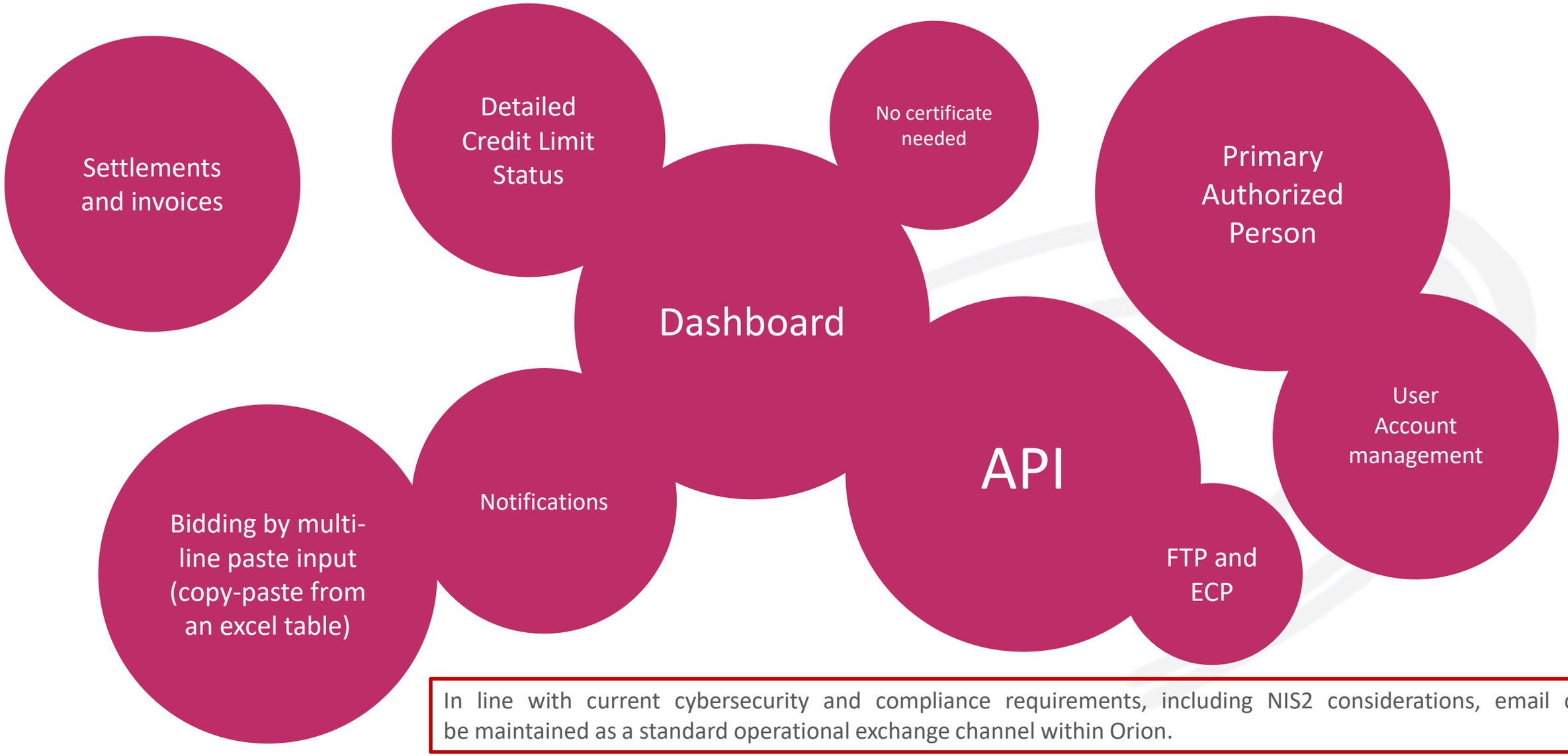




Roadmap


2025
2026
2027
April 2025: project kickoff
Q2-2025-Q2 2026: Agile Design phase (Detailed specification, UX, UI, flows, integrations…)
Q3 2025 -> Q4 2026: Agile Implementation and validation phase
Q3 2026 -> Q4 2026: Infrastructure setup and availability/recoverability
Dec 2026: Technical readiness and deployment
01/2027 -> Q2/3 2027: Testing phases (Int. TSOs, MPs…), training (Int. MPs, TSOs…), Operations readiness
Q3 2025 -> Q2 2027: Parallel project integration process
Sept 2027: Go-Live
Q3 2027: Data migration and Go-live sign-off
Q4 2027: hyper care
Post-Q4 2027: Optimization and Ongoing Enhancements Continue leveraging platform flexibility for continuous improvement.

Main Changes



In line with current cybersecurity and compliance requirements, including NIS2 considerations, email cannot be maintained as a standard operational exchange channel within Orion.

Upcoming Activities

- **Connectivity test – Phase 1**
  With three User Group members



- **Connectivity test – Phase 2**
  With User Group members and active API users



- **Connectivity test – Phase 3**
  With every Market Participants and TSOs





Thank you!

Important updates on cross border capacity allocation

Benito Barberio
Senior Spec. Balance Group & Sched. Services

swissgrid

Introduction of 15 minutes and block products at capacity auctions on Swiss borders

New design agreed among TSOs and NRAs

1. **Introduction of divisible block bids**
   - Block bids will be submitted as divisible block bids, allowing for partial acceptance instead of requiring the entire block to be accepted or rejected
   - They will be divisible in volume but non-divisible in time



2. **Block bids restricted to full hours**
   - Block bids can only be submitted for full-hour periods
   - Single hour block bids only (e.g. 13-14h - starting at each full hour)

3. **Removal of block bid orders in the ID CH–IT / IT–CH corridors**
   - Block bid orders will not be available for trading in the intraday CH–IT and IT–CH.

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Market information and start of survey published on 05/10/26

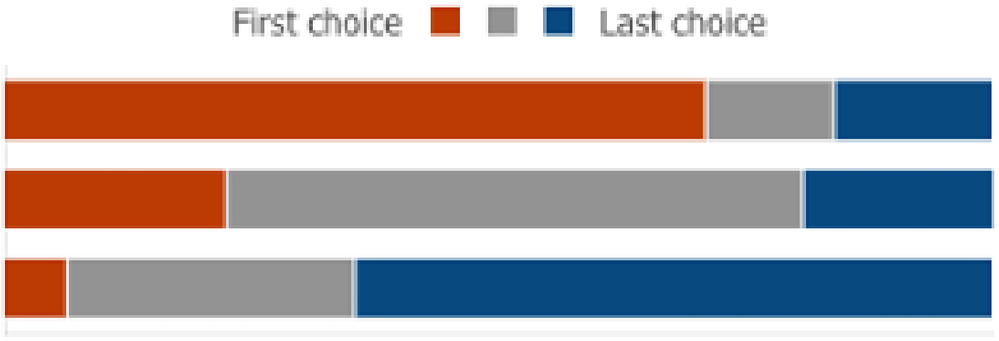
- Updated market participants on go live timeline regarding auctions on Swiss borders with15 min MTU and block bids
- Market participant survey on the preferred implementation approach: Link
- The survey asked market participants to express their preference between options:
  - **Option 1**: Introduce the **15-minute MTU** by **March 2027** without block bids. Under this option, **block bids** would **not** be **available** for the foreseeable future.
  - **Option 2**: Maintain the current hourly products. Introduce **both the 15-minute MTU and block bids** in the new auction tool (Orion), currently expected no earlier than **September 2027.**
  - **Option 3**: Introduce the **15-minute MTU** by **March 2027**. **Block bids** would be introduced later in the new auction tool (Orion), currently expected no earlier than **September 2027.**

Result of market survey

Question 3: Preferred Option Ranking

Option	Ranked #1	Share
Option 2 – 15-min MTU and Block Bids introduced together with Orion	22	71%
Option 3 – 15-min MTU in Mar-2027, Block Bids later in Orion	7	23%
Option 1 – 15-min MTU in Mar-2027 without Block Bids	2	6%

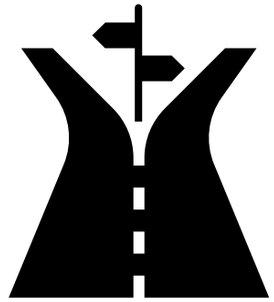
Rank	Options
1	Option 2: Maintain the current...
2	Option 3: Introduce the 15-mi...
3	Option 1: Introduce the 15-mi...



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Next steps

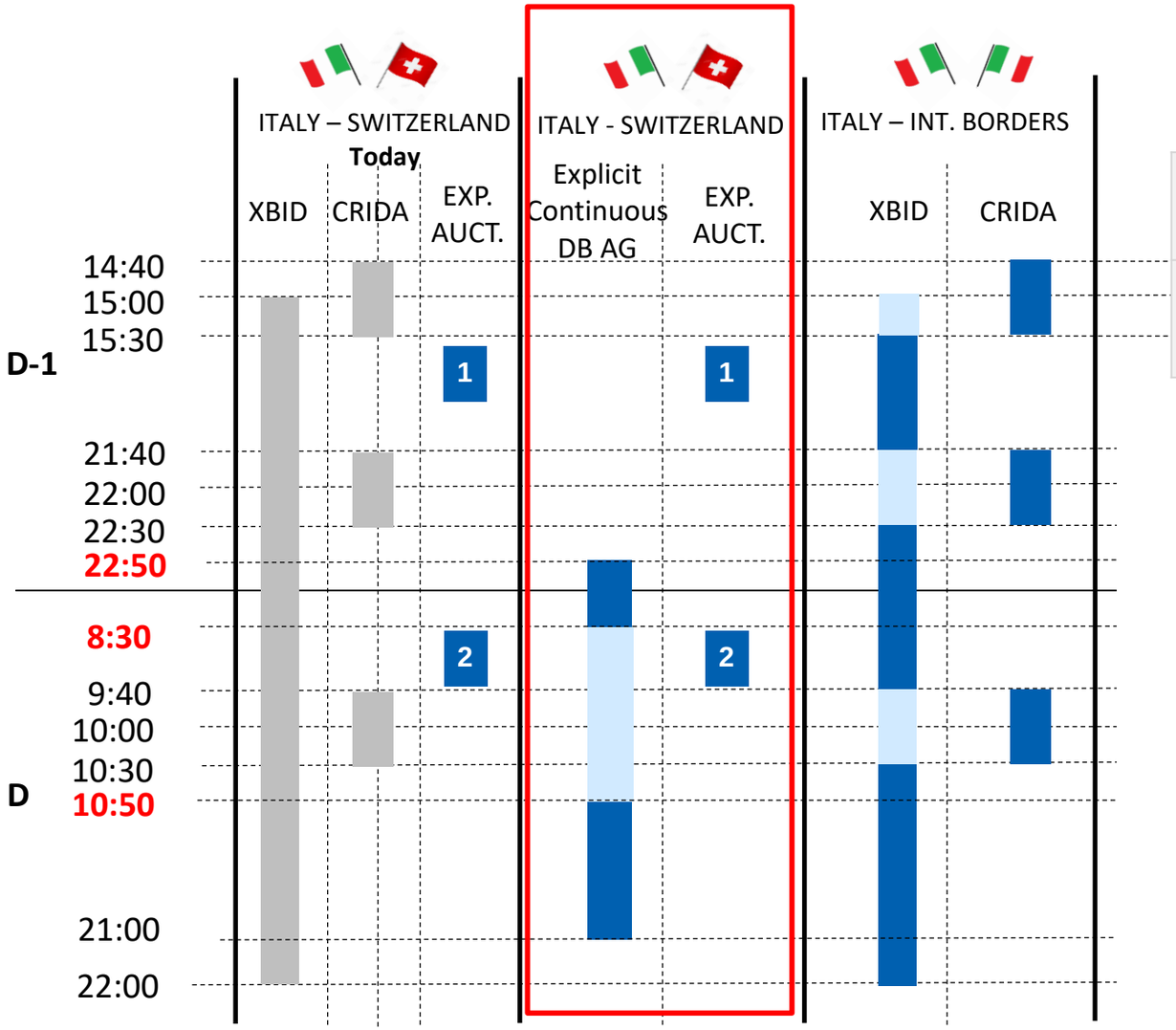
- TSOs and NRAs agree on the way forward
- Elaboration of a realistic timeline
- Inform market participants about decision and next steps



Continuous Intraday allocation on CH-IT border with 15 Min. market time unit

- In September Terna and Swissgrid have performed a public consultation on the Intraday Continuous Capacity Allocation Mechanism
- Several feedbacks received, answers will be published here: ENTSO-E website
- Adjustments to the various IT systems are currently being implemented
- After that, internal tests will start
- Market participants will also be able to test at a later date, we will keep you up to date here.
- Go Live of explicit continuous intraday allocation is planned for first half of 2027

Intraday continuous allocation (ICA) timings and gate closures



	Auction Results	Delivery time	Nomination Deadline	Cut Off Time
ID 1 CH-IT	16:35, d-1	0 – 24	22:35, d-1	**22:45, d-1**
ID2 CH-IT	09:35, d	12 – 24	10:35, d	**10:45, d**

Allocation process ongoing with available capacity

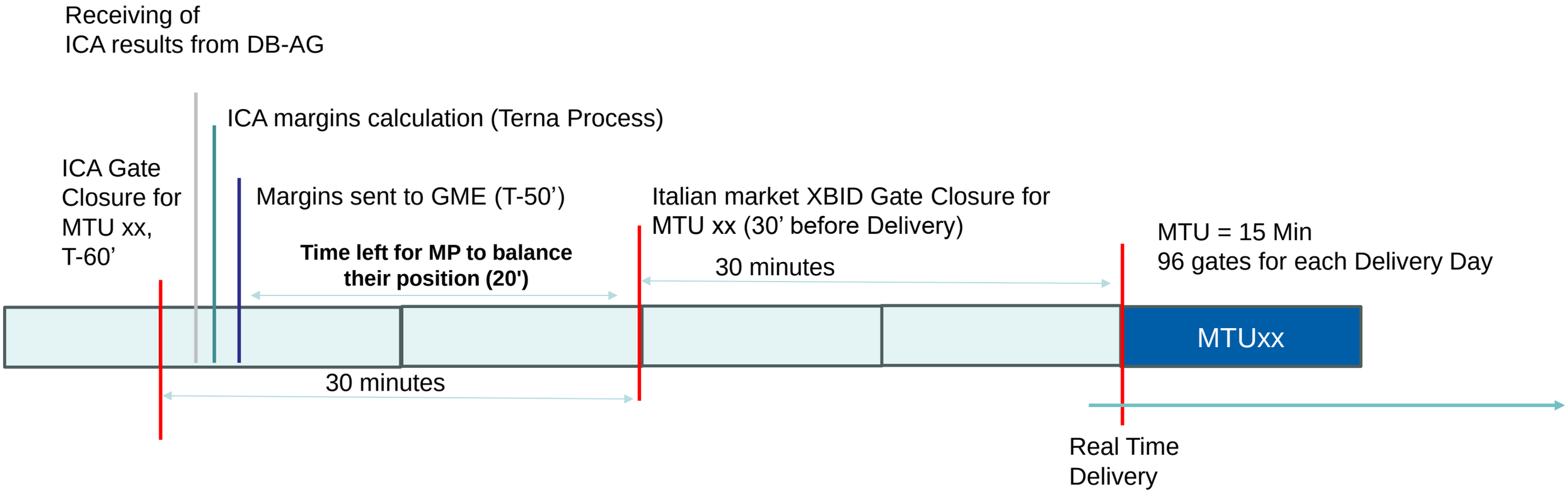
Allocation process suspended (capacity not available)

Allocation process not implemented

- Gate Closure for Matching of ID1 auctions: d-1 22:45
- Start of Intraday Continuous Allocation: d-1 22:50
- First Gate Closure for 00:00 – 00:15: d-1 23:00
- Stop Intraday Continuous Allocation: d 08:30
- Gate Closure for Matching of ID2 auctions: d 10:45
- Re-Start of Intraday Continuous Allocation: d 10:50
- Last Gate Closure for 23:45 – 00:00: d 22:45

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Intraday continuous allocation (ICA) timings and gate closures Italian side



Attention:

- if a market participant for example has explicitly allocated on DB AG platform 10 MW CH->IT 65 minutes before delivery, but cannot sell it in the Italian Market XBID until 30 minutes before delivery, he will be unbalanced for 10 MW
- So it's better to do the trades early in order to have enough time to allocate a counter direction nomination to DB AG platform before gate Closing 60 minutes before delivery.

CH-FR border: Continuous Intraday allocation with 15 Min and lead time reduction

Continuous Intraday allocation with 15 Min

- Swissgrid and RTE have updated and consulted the “Intraday Capacity Allocation Rules”
- Updated rules could be on RTE website
- Intraday 96 gates on FR-CH border is scheduled to go live for business day 17/11/2026

Reduction to 30 Min lead time on Continuous Intraday allocation

- Topic is looked at bilaterally per border with the respective neighbour TSOs
- GO Live not possible before 2028

Reduction to 30 Min lead time on Continuous Intraday allocation

- Topic is looked at bilaterally per border with the respective neighbor TSOs
- GO Live not possible before 2028

EPEX Spot updates on 15 Min products and liquidity of CH intraday market

Chiara Henle
Senior Key Account Manager, EPEX Spot

swissgrid

epexspot

part of eex group

Swissgrid BGM Partner Meeting 2026



01 Spot Power Market Update – Swiss Focus

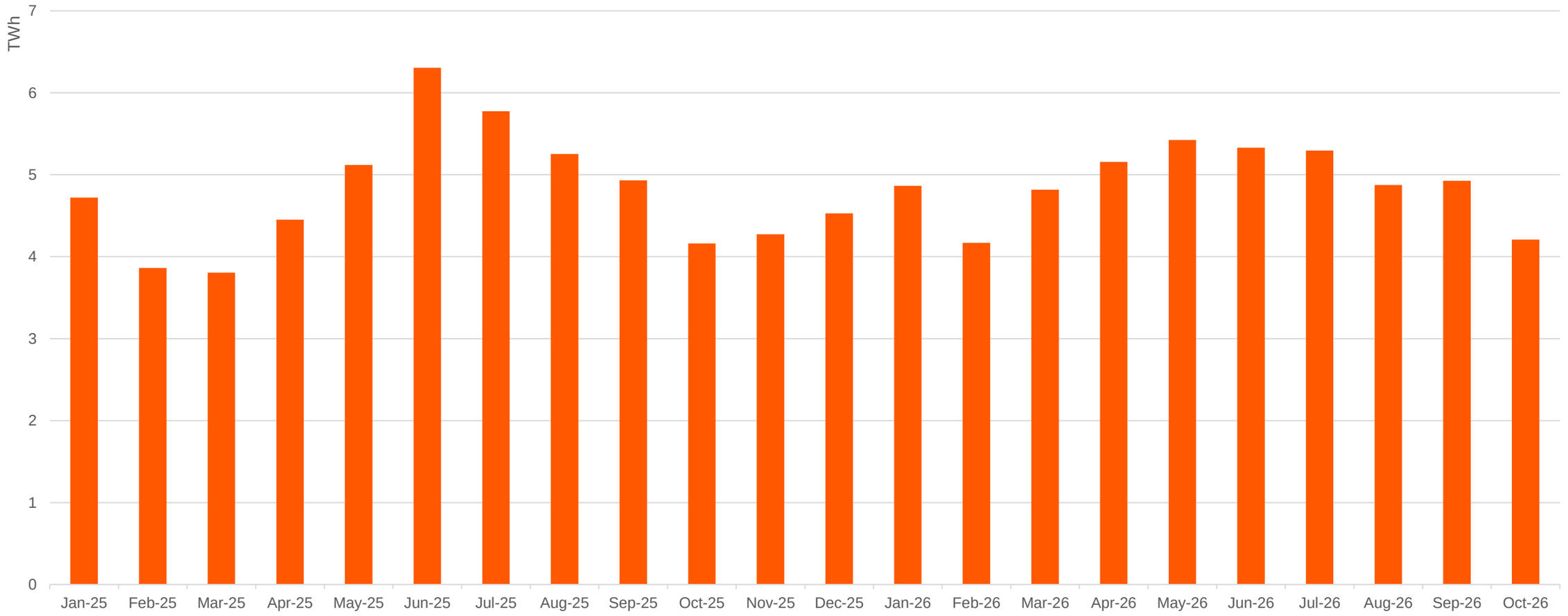
02 First insights - 15 Min MTU

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Spot Power Market Update – Swiss Focus

01

Swiss Day Ahead Auction Volumes

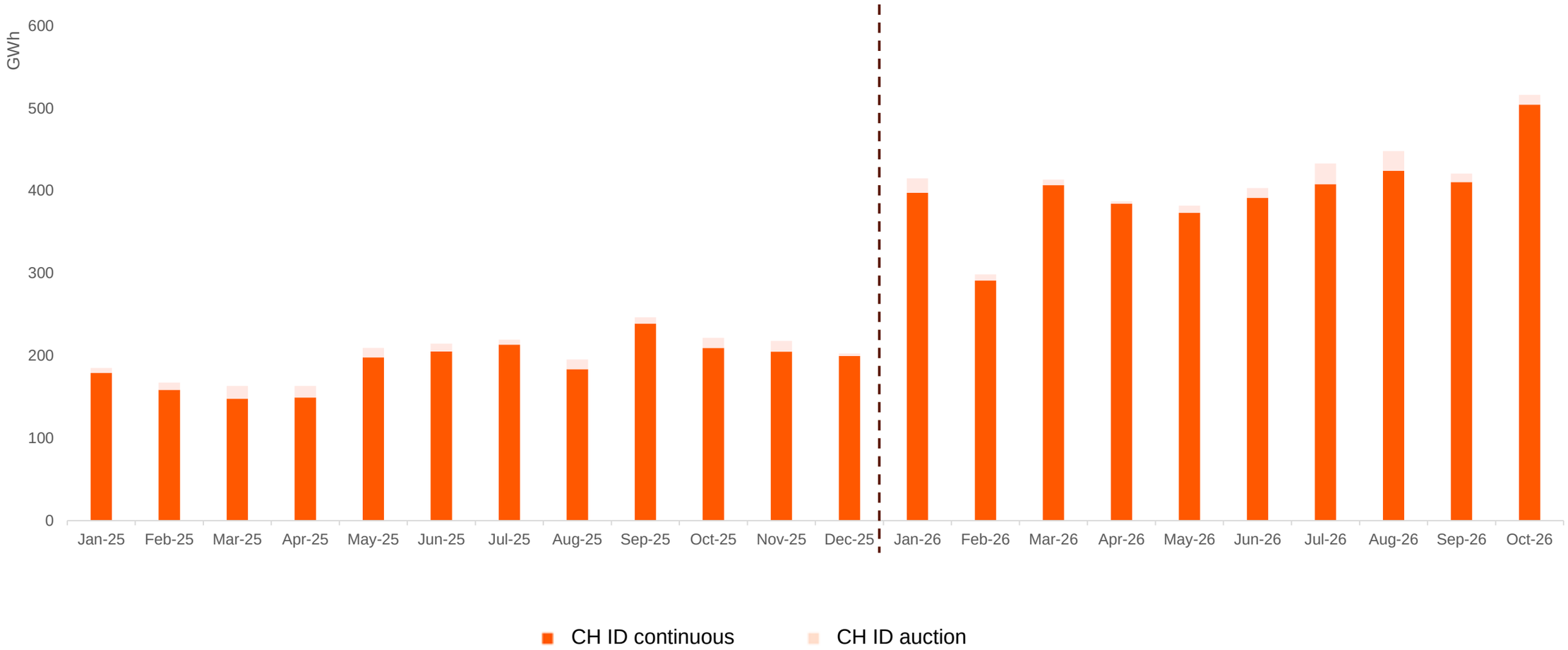


- **110+ Members are active** in the CH Day-Ahead Auction
- **49+ TWh traded on DAM CH** since January 20256

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Swiss Intraday volumes

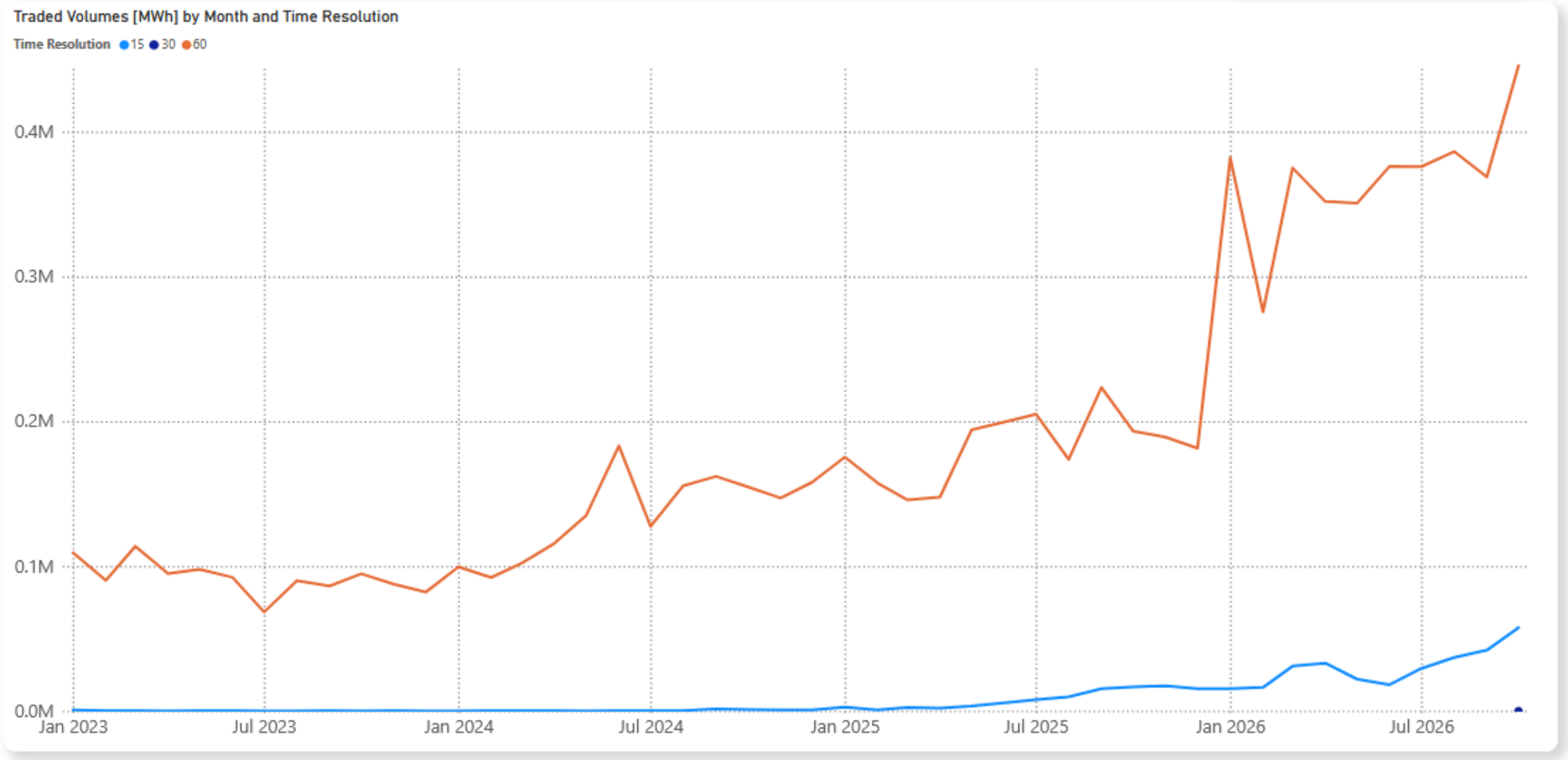
Intraday Continuous + Intraday Auctions



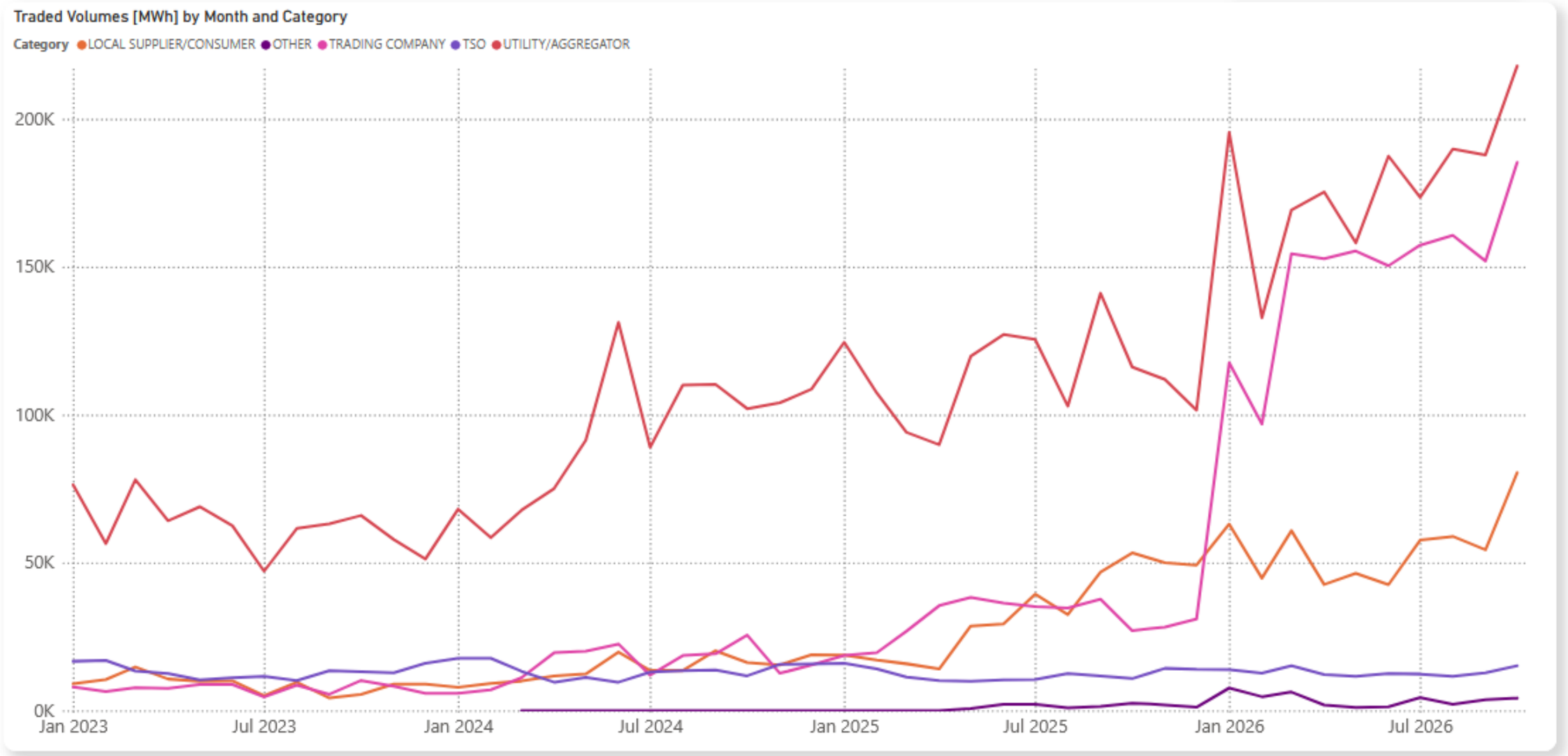
- On IDC Market, large growth recorded in 2026 with **3.9 TWh traded in YTS, +112% vs YoY**
- Already **105+ members** on the Intraday Continuous market, with a lot of interest & a promise of further strong growth

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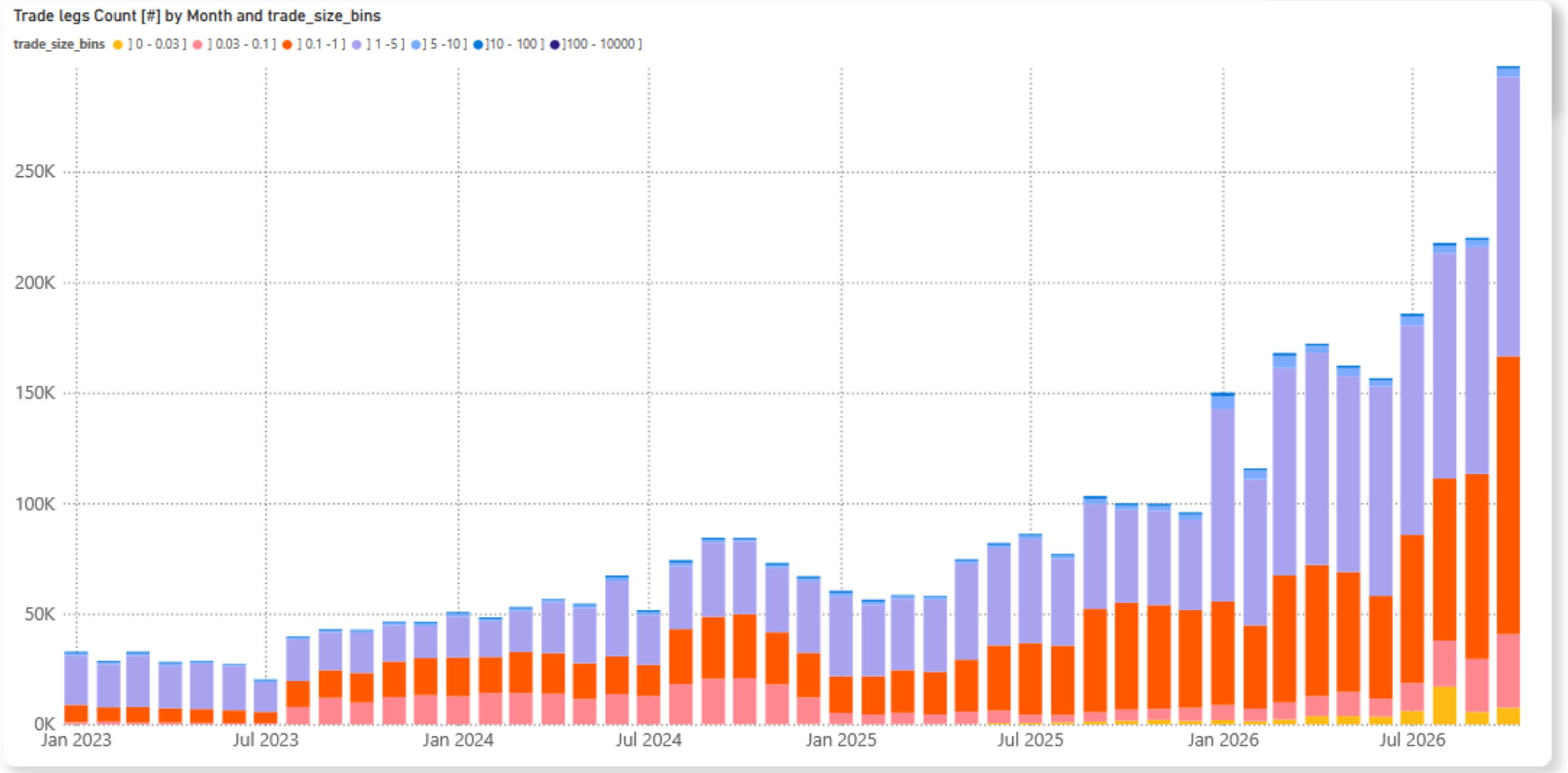
Traded volumes on Epexspot IDC CH – split per contract duration



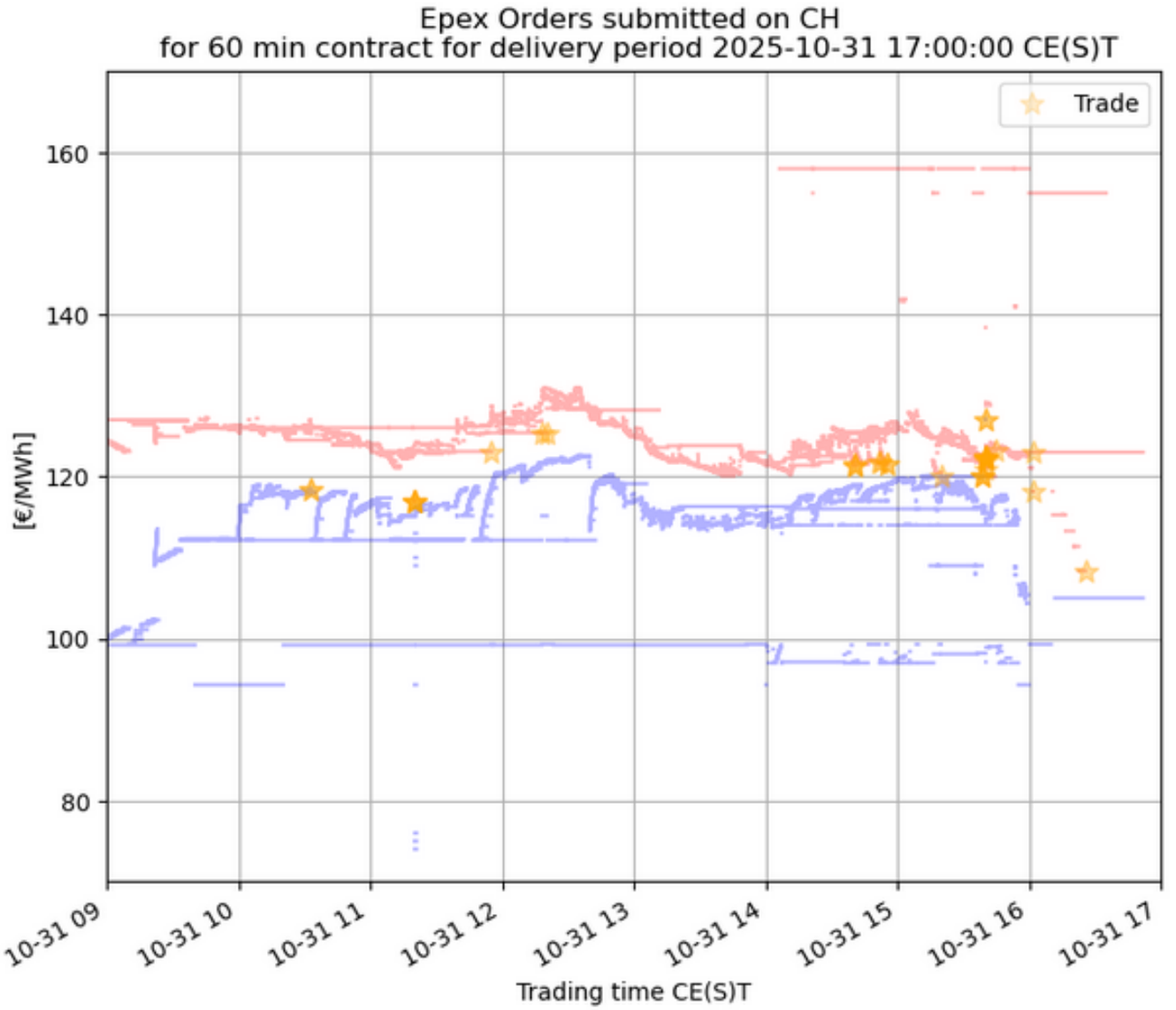
Traded volumes on Epexspot IDC CH – split per member category

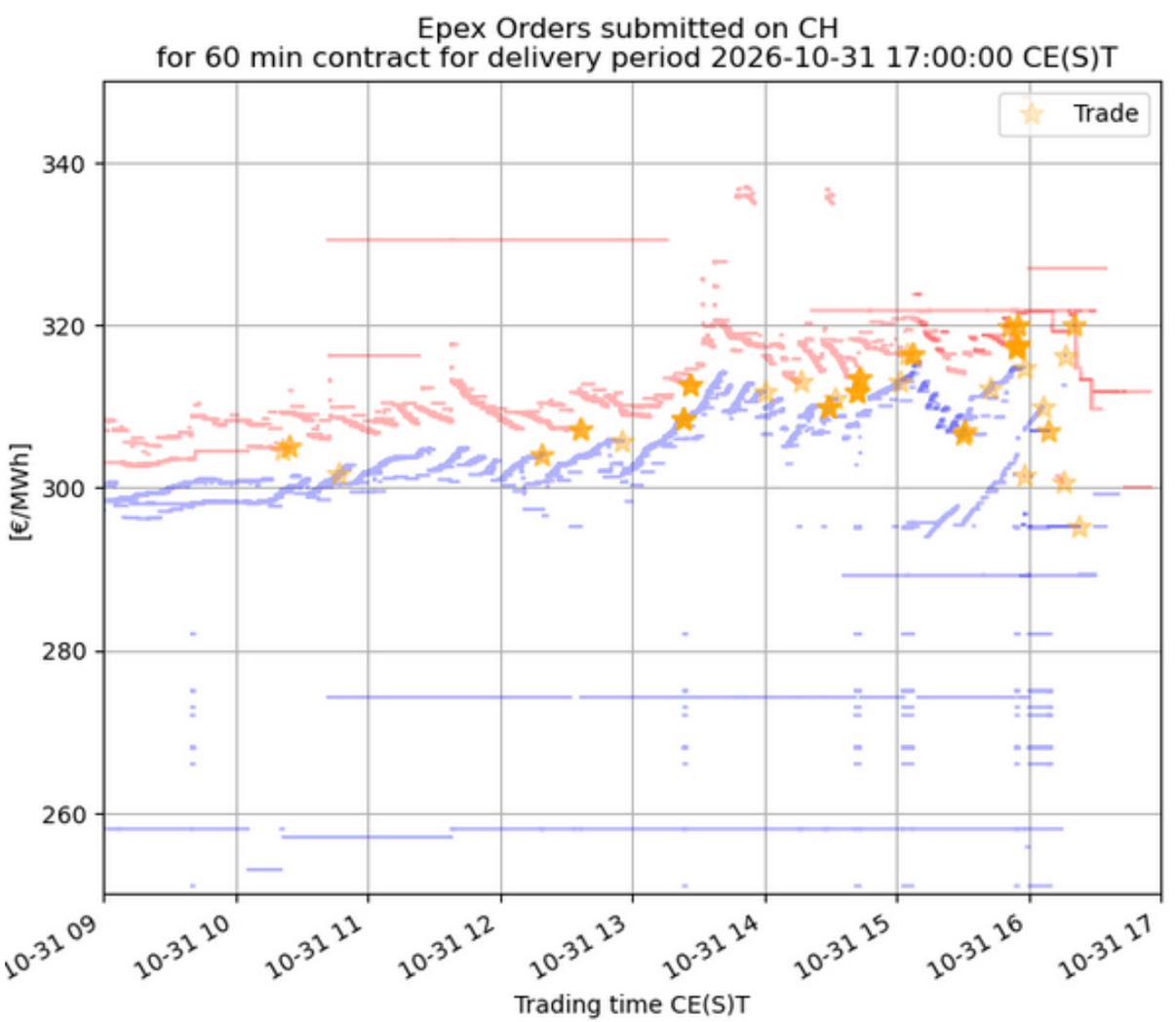


Trade count on Epexspot IDC CH – split per trade volume [MWh]

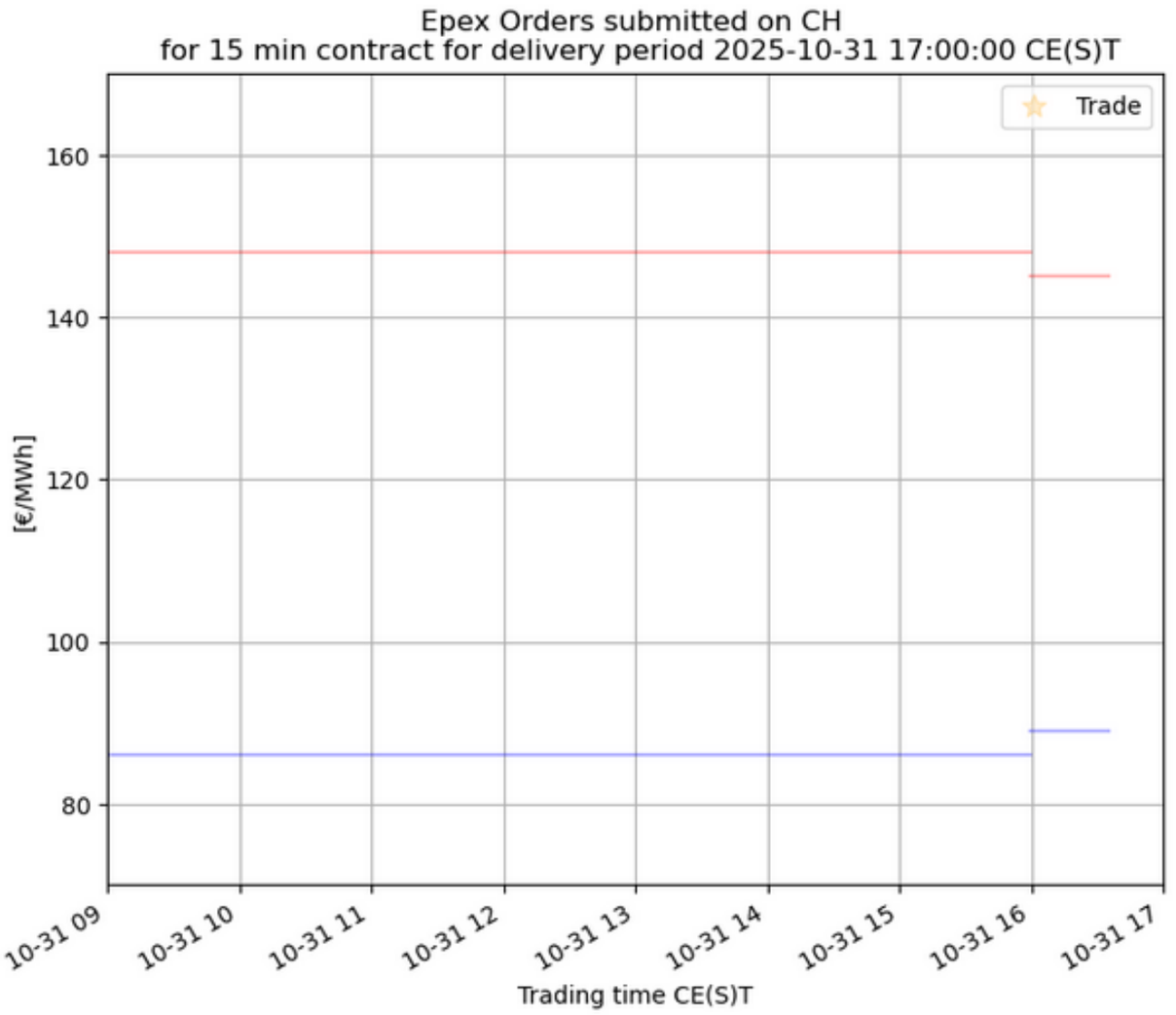


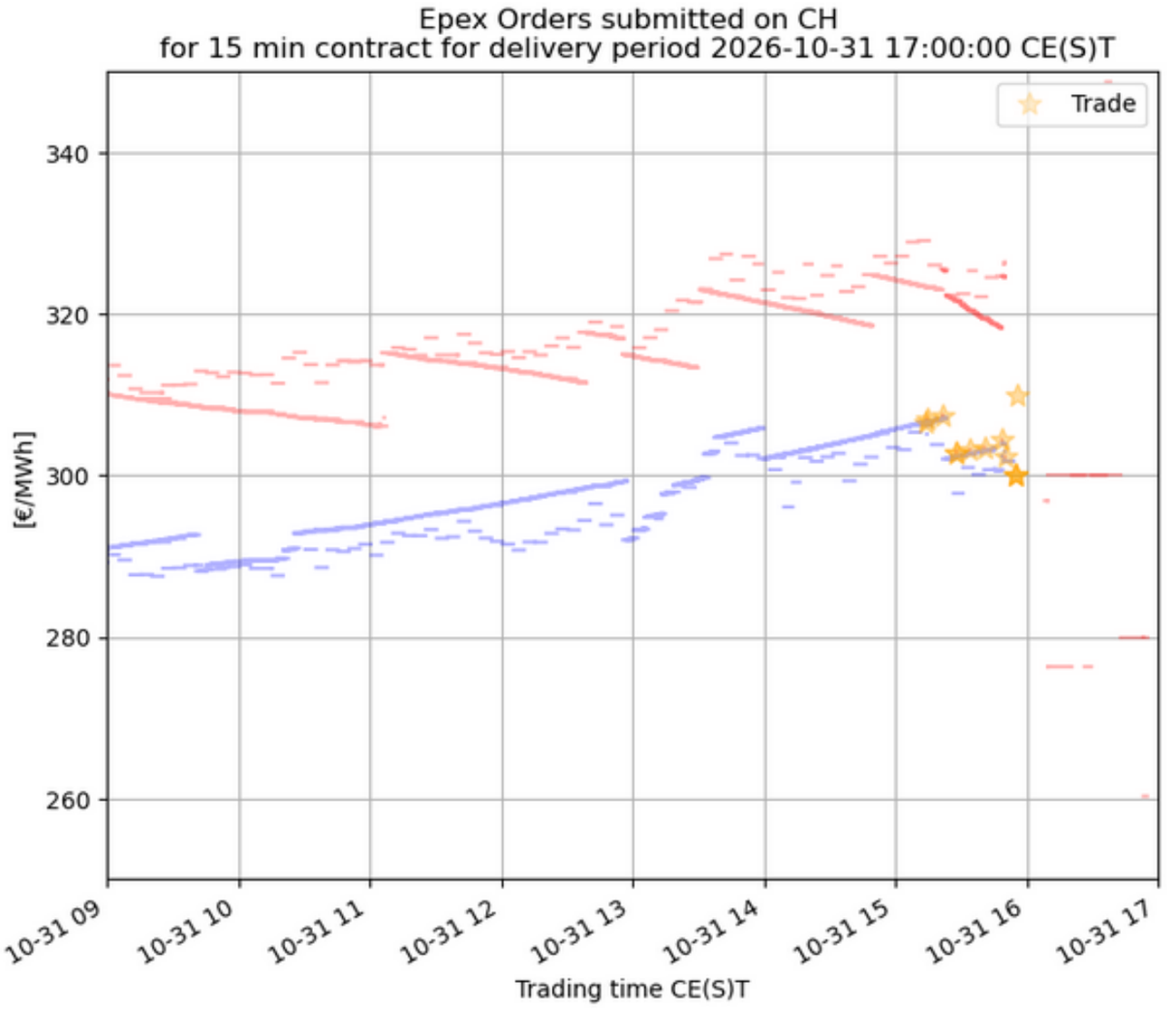
Visualisation of CH Bid-ask spread (example for one 60 min contract) – 2026 vs 2025



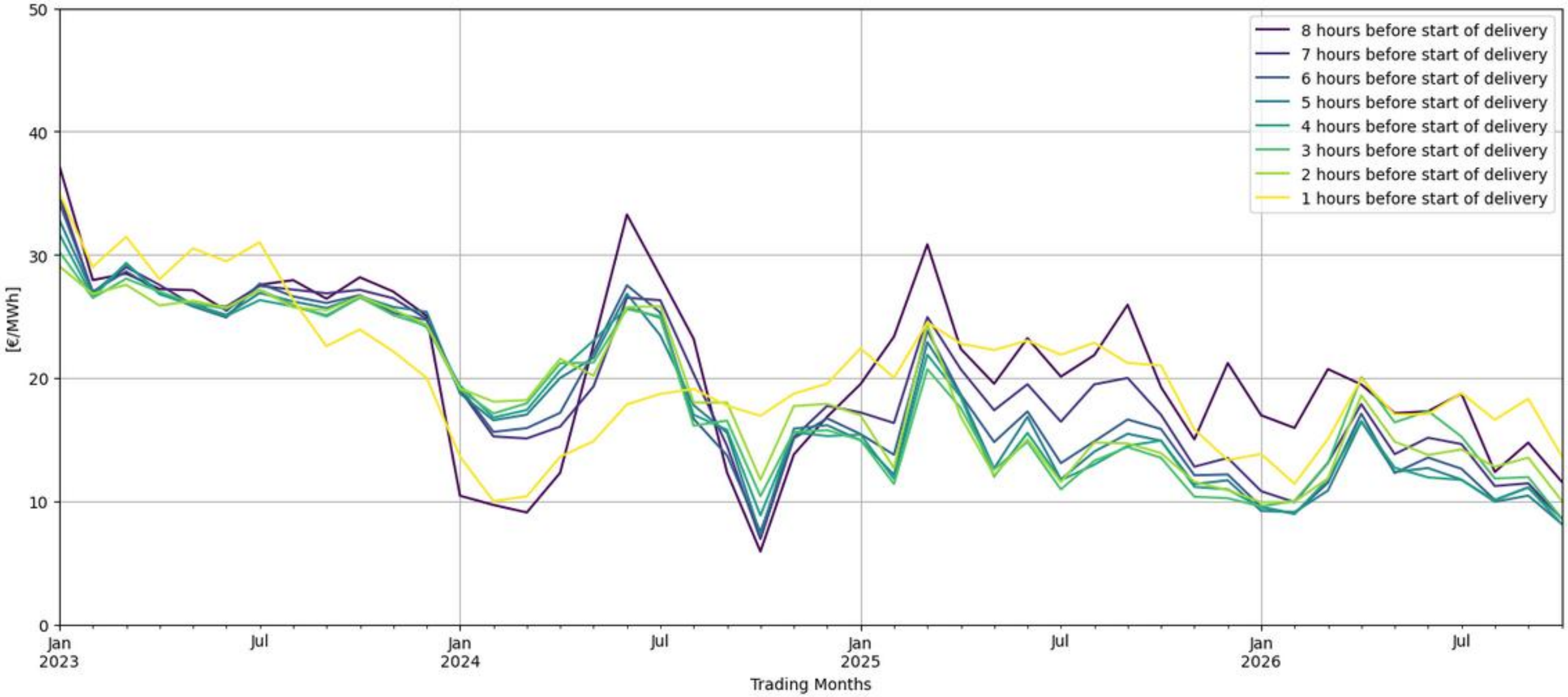


Visualisation of CH Bid-ask spread (example for one 15 min contract) – 2026 vs 2025





IDC CH Monthly Median Bid-ask spreads – 60 min contracts



First insights 15 MTU Introduction

02

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Unlocking Hidden Flexibility: Opportunities and actions in pooling, ramps and batteries

Dona Mountouri
Senior Specialist Market & Product Design

Jared Garrison
Principal Specialist Research & Digitalisation

swissgrid

Pooling

Processes and Pooling Painpoints

Is there something important that is not listed?

Asset Registration	TE-Lists Version, Assignment of MP to LF and BG, Info only to SG and not to LF/BG/VNB
SDL Bidding	
SG Activation	
Changes RPS/PPS and Monitoring	Lower data Quality, Baselining not well defined for all technologies (P_ap)
Physical Delivery	
Physical rebound effects	Out of schedule energy recovery after an SDL activation (in PQ resolved, but needs to be stricter controlled) BG not in knowledge of the activation counter activation when reacting to single imbalance price
Energy transfer SDV –SG, SG -BGV	DPS and INS (too early, too late), Possible mistakes in INS, cases with multiple suppliers
Product Delivery Verification	Low standardization on methodology and data quality
Accounting SG SDV, SG BGV	
Cost-spliting BG-LF	Possible mistakes in Cost allocation of BG to ist LFs due to wrong data in INS and little information

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Registration of an assets (current Situation)

Stadt	Messpunktbezeichnung	Name Zugehörige Bilanzgruppe	EIC Zugehörige Bilanzgruppe	Name Zugehörige Lieferant	EIC Zugehörige Lieferant	Name Verteilnetz	EIC Verteilnetz	Name Verteilnetzbetreiber	EIC Verteilnetzbetreiber
	Für Regelpooling			Für Regelpooling	Für Regelpooling	Für Regelpooling	Für Regelpooling	Für Regelpooling	Für Regelpooling
	CH1008701234500000	Axpo Solutions AG	12XEGL-H-------0	Enbag AG	12XEWBN-HANDEL-J				
	CH1008701234510000	Axpo Solutions AG	12XEGL-H-------0	Enbag AG	12XEWBN-HANDEL-J				
	CH1012001234500000	Primeo Energie AG	12X-0000000072-S	Aare Versorgungs AG (AVAG)	12X-0000000009-Z				
	CH1021401234510000	Azienda Elettrica Ticinese	12XAET-HANDEL--3	Elektrizitätsversorgung Oberriet	12X-0000001179-X				
	CH1005401234500000	Primeo Energie AG	12X-0000000072-S	SWL ENERGIE AG	12X-0000000768-G				
	CH1011701234500000	Axpo Solutions AG	12XEGL-H-------0	Elektrizitätsversorgung Oberriet	12X-0000001179-X				
	CH1016101234500000	Axpo Solutions AG	12XEGL-H-------0	Elektrizitätsversorgung Oberriet	12X-0000001179-X				
	CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J				
	CH1088601234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J				
	CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J				
	CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J				
	CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Dorfkorporation Schwarzenbach	12X-0000000068-E				
	CH100870123450VMP	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N				
	CH1008701234500000	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N				
	CH1088601234500000	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N				
	CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N				
	CH10859012345LZA-	BKW AG	12XBKW-HANDEL--X	BKW Energie AG	12XSDL-BKW-FLF-X				
	CH10859012345LZA-	BKW AG	12XBKW-HANDEL--X	BKW Energie AG	12XSDL-BKW-FLF-X				
	CH10859012345LZA-9	BKW AG	12XBKW-HANDEL--X	BKW Energie AG	12XSDL-BKW-FLF-X				
	CH10859012345LZA-I11	BKW AG	12XBKW-HANDEL--X	BKW Energie AG	12XSDL-BKW-FLF-X				
	CH10859012345LZA-H08	BKW AG	12XBKW-HANDEL--X	BKW Energie AG	12XSDL-BKW-FLF-X				

Possible errors identified by swissgrid
Possible errors registered by SDV

Disclaimer: the BG – LF combinations are fictitious and are only used as a demonstrative example

Digitalization of the registration and asset database

- Swissgrid is currently transferring the **TE lists to a database** that SDVs can also view and edit.
- Some mistakes or possible errors can be already automatically identified in the registration process.
- **SDVs remain responsible for maintaining these data**.

The new database could create new possibilities to increase data quality and quality of pooling processes:

- Could enable balance groups to verify supplier assignments. (The technical specifications for database access are being developed.)
- Could also enable suppliers or balancing groups to verify the assignment of metering points.
- Could enable balance groups or suppliers to disregard those metering points from active balancing or forecasts and to monitor rebound effects better.

For all the above further clarification is required, for example regarding Swissgrid's role, supplier access, and feasibility. No final decision on implementation has been made yet.

Possible future process

Would you be willing and are you able to engage and live such a process?
Do you believe the suppliers should have an active role?

- BG Axpo Solutions AG is granted access to specific view of the database.
- BG Axpo Solutions AG can view all Suppliers and metering points assigned to them and can mark errors.

Messpunktbezeichnung	Name Zugehörige Bilanzgruppe	EIC Zugehörige Bilanzgruppe	Name Zugehörige Lieferant	EIC Zugehörige Lieferant
CH1008701234500000	Axpo Solutions AG	12XEGL-H-------0	Enbag AG	12XEWBN-HANDEL-J
CH1008701234510000	Axpo Solutions AG	12XEGL-H-------0	Enbag AG	12XEWBN-HANDEL-J
CH1011701234500000	Axpo Solutions AG	12XEGL-H-------0	Elektrizitätsversorgung Oberriet	12X-0000001179-X
CH1016101234500000	Axpo Solutions AG	12XEGL-H-------0	Elektrizitätsversorgung Oberriet	12X-0000001179-X
CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J
CH1088601234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J
CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J
CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Energie AG Sumiswald	12X-0000000532-J
CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	Dorfkorporation Schwarzenbach	12X-0000000068-E
CH100870123450VMP	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N
CH1008701234500000	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N
CH1088601234500000	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N
CH1088401234500000	Axpo Solutions AG	12XEGL-H-------0	GroupeE	12Y-0000000654-N

- Errors are backtracked and SDV gets information / message to correct the data of the assets.

Processes und Pooling Painpoints

Do you support the above described actions as a solution to the problems?
Do you see further actions?

Asset Registration	TE-Lists Version, Assignment of MP to LF and BG, Info only to SG and not to LF/BG/VNB	❤
SDL Bidding		
SG Activation		
Changes RPS/PPS and Monitoring	Lower data Quality, Baselining not well defined for all technologies (P_ap)	♡
Physical Delivery		
Physical rebound effects	Out of schedule energy recovery after an SDL activation (in PQ resolved, but needs to be stricter controlled) BG not in knowledge of the activation counter activation when reacting to single imbalance price	❤
Energy transfer SDV –SG, SG -BGV	DPS and INS (too early, too late), Possible mistakes in INS, cases with multiple suppliers	
Product Delivery Verification	Low standardisation on methodology and data quality	♡
Accounting SG SDV, SG BGV		
Cost-spliting BG-LF	Possible mistakes in Cost allocation of BG to ist LFs due to wrong data in INS and little information	❤

swissgrid

Ramps

Swissgrid Ltd
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Switzerland

Deterministic frequency deviation

- What is it?

Deterministic frequency deviations (DFD) are predictable, dominantly market driven imbalances, that occur frequently, especially during the ramping periods (hour shift) in the morning and in the evening. They are usually placed around the change of the hour and the related peaks could reach more than 150 mHz. During the period of the frequency excursion, lasting usually 15-20 minutes, a large amount of primary reserve is activated. (Quelle ENTSO-E)

- Why is this a problem?

A simultaneous large disturbance could result in a frequency deviation exceeding the design criterion of the primary reserve (calculated dynamic peak values are in best case 200 mHz, in worst case 800 mHz) with the risk of triggering an unpredictable sequence of events with unknown consequences for system security. (Quelle ENTSO-E)

- Typical solution:
  - **TSOs ask for unit ramps centered on schedule changing time (usually 10min)**
  - Consideration of Ramps in the settlement process
  - Shorter MTUs

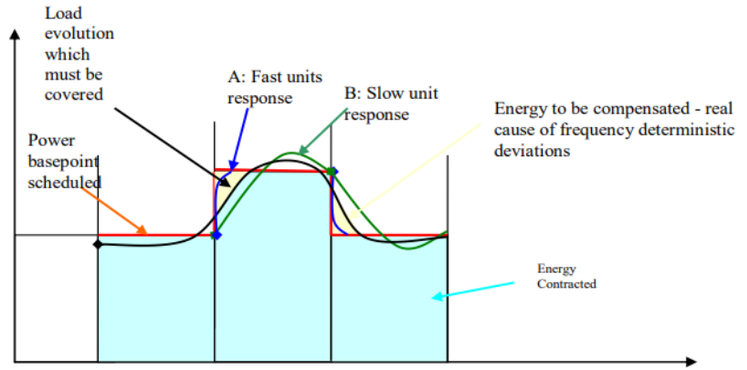


Fig. 3.3 a: Unit behaviour in scheduled time frames. Source: Transelectrica

Current regulatory situation

Transmission Code CH:

2.6. Requirements for PPOs, DSOs and BGMs regarding control of generation and final consumption in the event of a schedule change

(1) Schedule changes must take place in a linear fashion over a period of ten minutes, beginning five minutes before the schedule change.

(2) To avoid unnecessary use of control power, the PPOs must adhere to the regulations described in paragraph (1) when implementing their production schedules.

(3) To prevent excessive load variations, the DSOs must stagger the planned connection and disconnection of end consumers in such a way as to produce, or balance, a roughly linear change in the final consumption within the time period specified in paragraph (1).

(4) Paragraphs (2) and (3) may be deviated from only if the resulting schedule change for the corresponding balance group follows the required ramp curve. This ensures that the behaviour of the balance responsible parties corresponds to the ramp curve required in paragraph (1).

General BG Regulation:

7.2 Billing imbalance energy

Swissgrid calculates the imbalance data of the BGM's balance group for each 15-minute period, based on the schedule messages (FCNF) in the balance group system and the production and consumption aggregates provided by the distribution system operators. Technical details regarding the imbalance data are taken from the Technical Balance Group Regulations.

For imbalance energy billing, Swissgrid takes into account the ten-minute ramps upon changes to the schedule balance as prescribed by the Swiss Transmission Code and the Synchronous Area Framework Agreement for Regional Group Continental Europe, i.e. if a schedule change is planned, the corresponding variation in power output must take place in a linear fashion if possible over a period of five minutes before and up to five minutes after the schedule interval. Consequently, the imbalance energy balance can deviate from the value in the imbalance data. However, when calculating ramps, secondary control energy

System Operations Guideline:

TSOs can define ramping restrictions for generation and load (Article 137), but this only applies to generators of category B,C or D (1MW or larger)

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Why is this a topic today?

- PV, Batteries and all low level resources reacting to market signals (DA,ID) without ramps or without clear regulation regarding the ramps.

Do you share this opinion?
Do you see this as a problem?
Do you intend to do something about it?
What do you think needs to be done /possible actions?

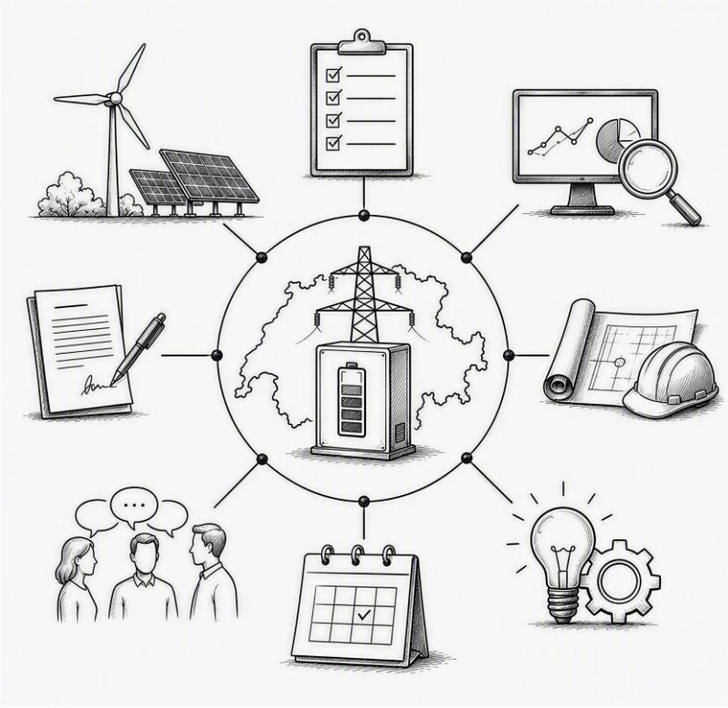
Batteries

Swissgrid Ltd
Bleichemattstrasse 31
P.O. Box
5001 Aarau
Switzerland

swissgrid

Integration of batteries on GL1 into the Swissgrid world

Holistic approach to define necessary changes

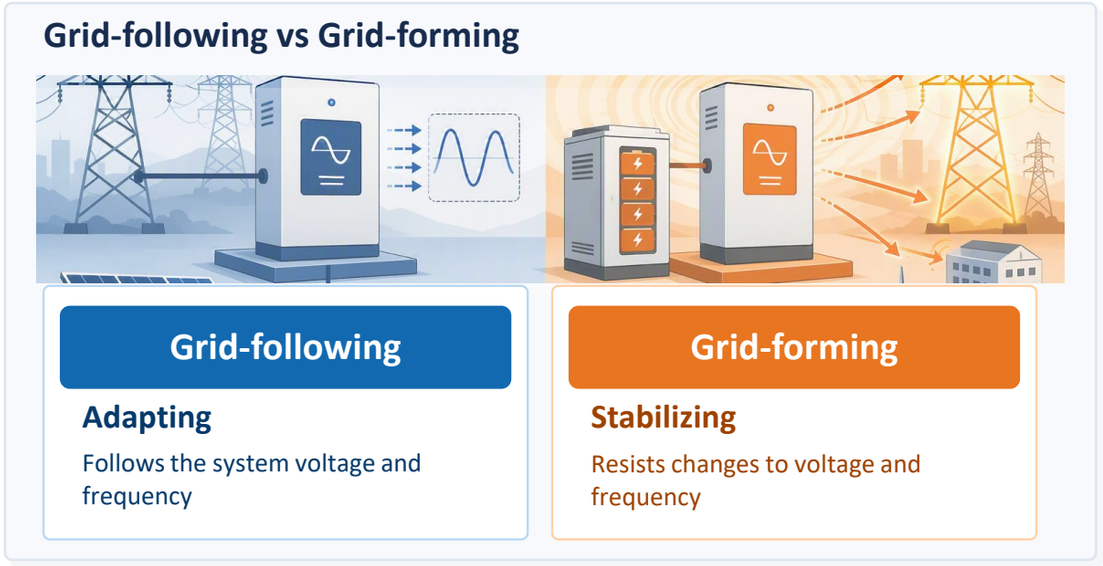


3 main pillars

1. Adjustments to existing processes
2. New requirements / products
3. Regulatory / contract modifications

How can batteries benefit the system

- Grid frequency control and stability
- Voltage control and reactive power supply
- Congestion relief and peak shaving
- Grid reconstruction
- Support integration of RES and the energy transition



The use of batteries in several processes relevant to BGs are being reviewed

Relevant processes for BGs

- SDL prequalification
- SDL procurement and activation
- Schedule management
- Congestion management
- Monitoring & Data

Discussion questions

- Do you have any other Swissgrid processes in mind that batteries will play a role in?
- What issues do you see or what problems have you already faced?
- What wishes do you have regarding these processes and other battery-related topics?
- How do you see the possibilities and your role?

Beat the optimizer: Evolution of mFRR activation in the Swissgrid control room

Katja Möhring
Project Manager

Jens Hettler
Head of Team System Operations Balancing & Scheduling

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1 Beat the Optimizer Game

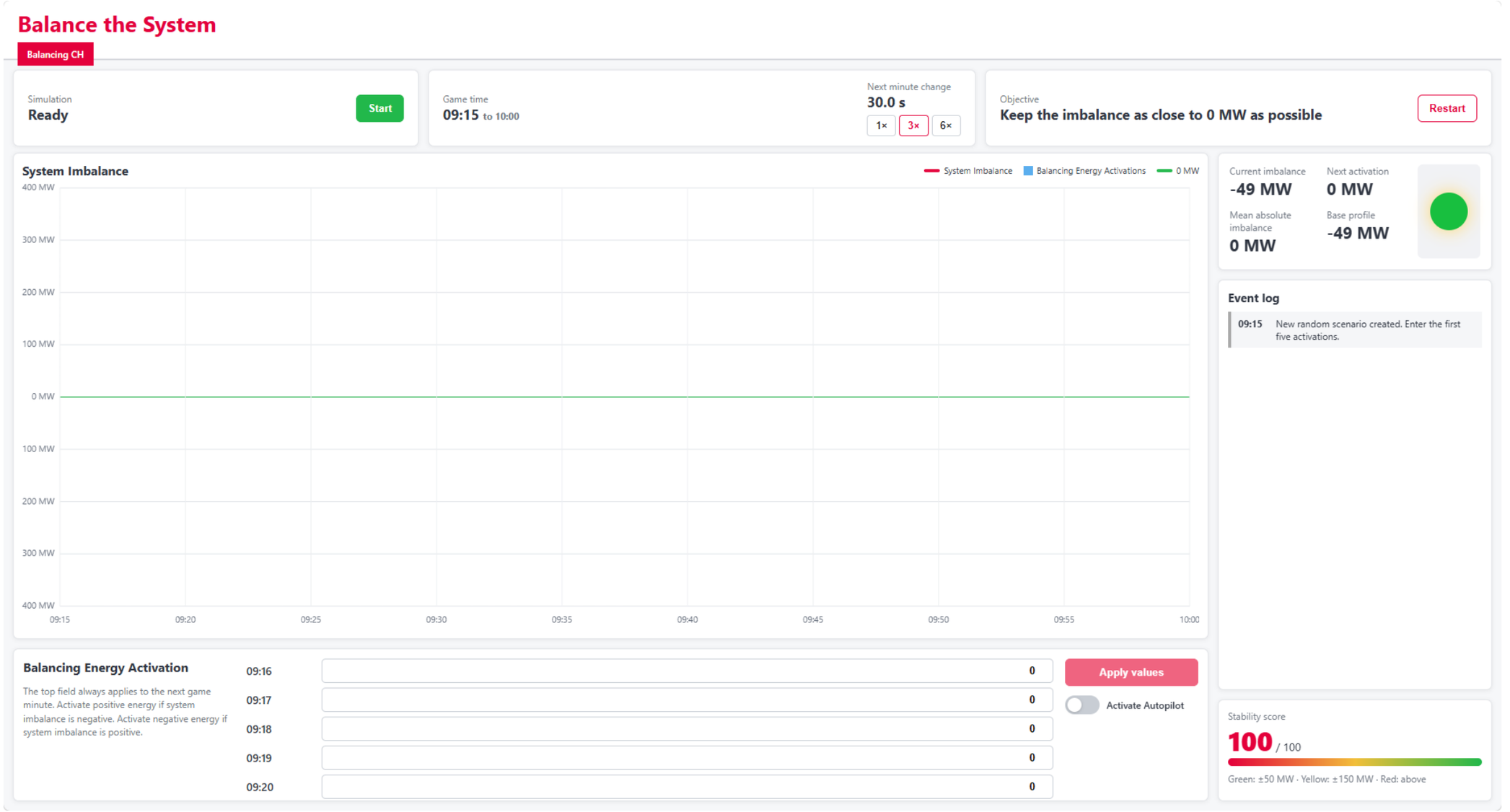
2 Evolution of System Operations

3 One Year of AEP Work

4 Challenges of the Future

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Beat the Optimizer



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Beat the Optimizer



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1 Beat the Optimizer Game

2 Evolution of System Operations

3 One Year of AEP Work

4 Challenges of the Future

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From manual work to a fully automated AI Solution

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1 Manual process – a challenging daily task

Every 15 minutes, the dispatcher analyses the situation, decides on a value and activates balancing energy.



2 A decision-support tool is introduced

A back-office team develops a tool that calculates a recommended value every 15 minutes.



3 Early usage – low trust

At the beginning, the recommendations are often inaccurate and must be copied manually into another tool.



4 Continuous improvement – but unnoticed

The back-office team keeps improving the tool. The quality of the recommendations increases significantly.



5 Hidden potential

Analyses show a high cost savings potential if the recommendations had been consistently used.



6 Tension and escalation

Pressure on the dispatchers increases to follow the tool's recommendations. Trust is low and the front between back-office and dispatchers is hardened.



Little trust. Little appreciation. Maximum tension.

7 A temporary compromise

A dedicated person is added to the control room to transfer and activate the recommended values.



The dispatchers see that the tool's recommendations have become much better. Trust is growing – and the financial savings are quickly visible.

8 Working together on the next step

Building on the shared success, the teams work together to fully automate the workflow.



Our goal:
The dispatcher monitors the process and only intervenes in case of an alert.

9 Fully automated AI solution

The tool now runs stably and autonomously. The dispatcher has more time for other important tasks and can work more focused, knowing that the tool does a good job.



10 Today – more value for tomorrow

The dispatcher sees the relief and efficiency gains and starts thinking about where a similar solution could be used next. He is motivated to learn more about the technology and drive further innovation himself.



When you hear this story, what keywords come to mind?



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1 Beat the Optimizer Game

2 Evolution of System Operations

3 One Year of AEP Work

4 Challenges of the Future

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Lookback: Expectations a year ago

Problem:

Imbalance smaller, Optimizer overshoots

Solution:

Fine-tuned Model

Yes, but there is more

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We implemented more than this

1. **Fine-tuned Model**: focused on most recent TSI performance
2. **Meta-Learner:** Selecting the best model based on past performance

Presented last year

3. **Conservative Activations:** reduce activations to avoid overshooting
4. **Faster Models:** integrate latest data

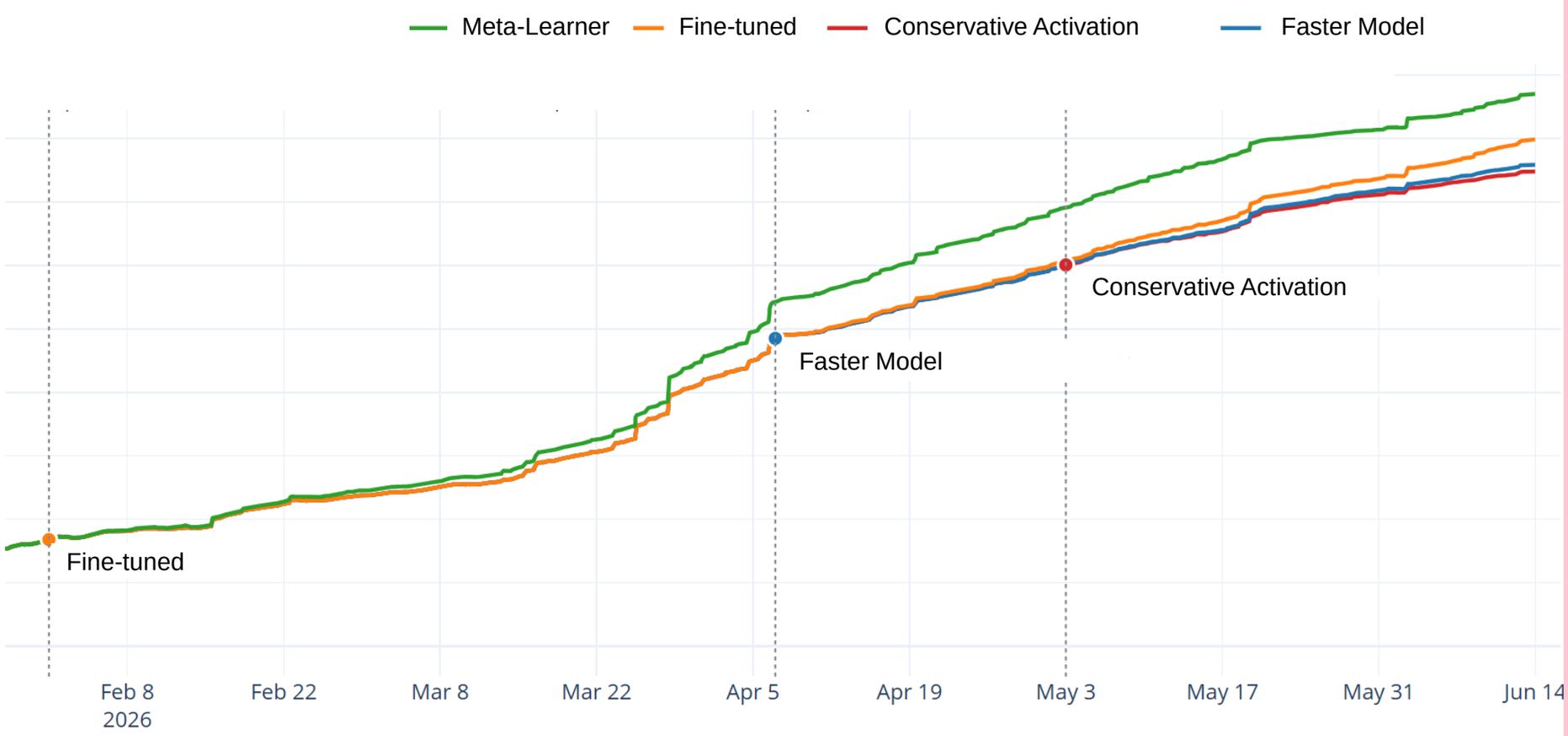
Presented this year

5. **Probabilistic Optimization:** integrates risk in Activation decision
6. **Open Positions integration**: catching big positions and changes

New & in Progress

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We continuously increase performance



- The main benefits have been achieved
- We will continue to invest into model improvement, paying off long term
- Individual events rather than general slope gain in significance

1 Beat the Optimizer Game

2 Evolution of System Operations

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4 Challenges of the Future

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A possible future scenario

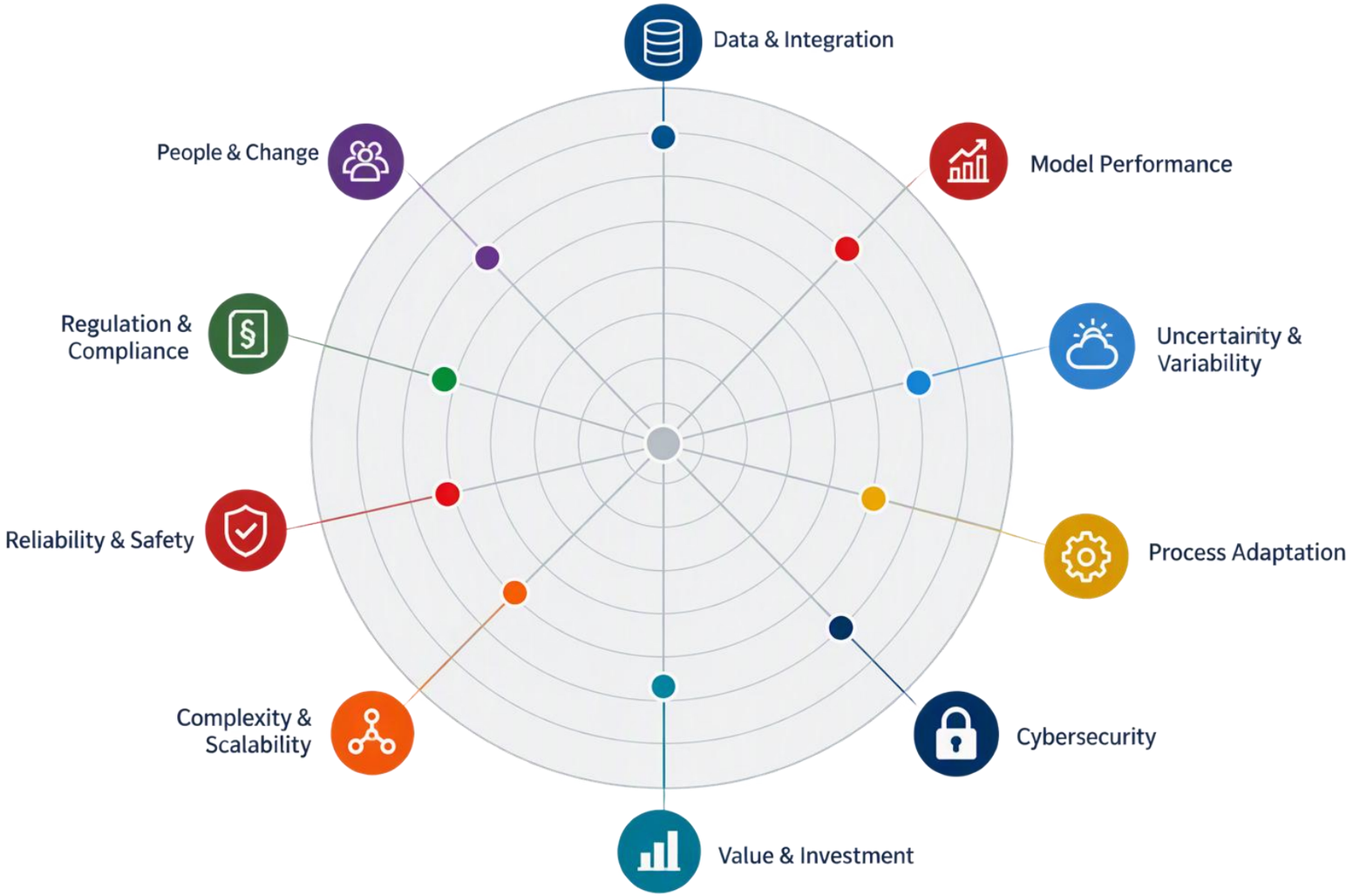


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A possible future scenario



Challenges in scaling this technology for System Operations



swissgrid

The solar balancing act: Mastering PV forecasting and curtailment challenges

Raphael Wu
Principal Specialist Market Strategy

Quirin Egli
Specialist Balance Group & Sched. Services

swissgrid

Recent developments

Spring 2026

SDAC -600 EUR/MWh

Publication of White Paper PV

Iberian Blackout final report

SFOE report on control energy need

Dynamic minimum remuneration in 2027

Summer 2026

Initial presentation at BG expert meeting

Bilateral exchanges with BRPs on PV forecasting, controllability and ramps

Today

Discussion and validation of challenges and priorities

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Forecasting

BRP feedback

- Significant improvement over the last years
- Sunny days are easy to forecast
- Real-time proxy with reference plants works well
- Remaining improvement potential on forecast updating (also intraday) is mainly with smaller suppliers, who are picking it up slowly

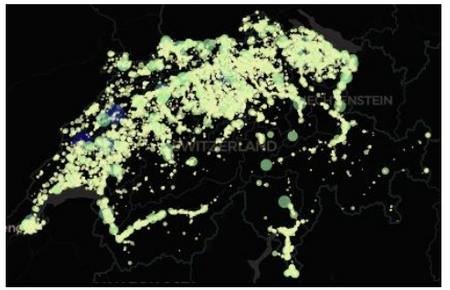
Discussion questions

PV Whitepaper: Recommendations on «Data»

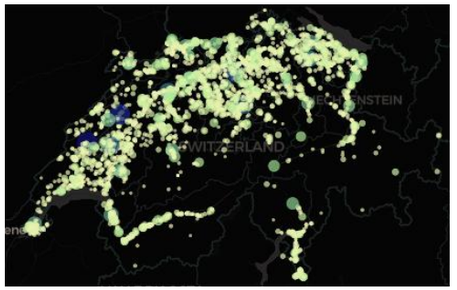
@SFOE/Pronovo:

- Timely and high-quality publication of master data, including balance group allocation
- Establishment of a nationwide network of photovoltaic plants in Switzerland, with their actual production made publicly available to improve forecasts
- Investigation of the possibility of adding real-time data to the Data Hub in the future

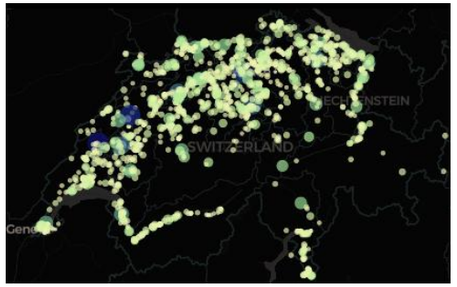
PV plant geographical distribution



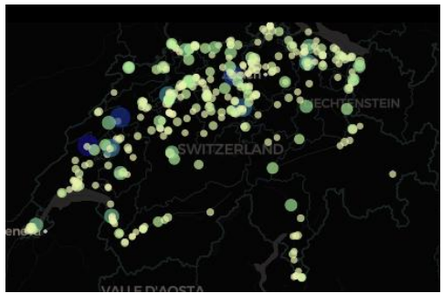
>= 100 kW



>= 300 kW



>= 500 kW



>=1000 kW

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Voluntary downward flexibility

BRP feedback

- Controllability & accessing flexibility:
  - Direct control in own portfolio: Larger plants
  - Based on aggregators, OEMs or EMS provider clouds/APIs: Smaller plants
  - Use of DSO control: Technically feasible, but regulatory issue since there is no Smart-Meter-Gateway (like in Germany)
- Business case:
  - Difficult even with value stacking (spot market, ancillary services, imbalance price)
  - Smaller plants still better via aggregators
  - Business case might be improved with third party aggregation (pooling) in the energy market
- Dynamic minimum remuneration: Assumption that PV+BESS systems have an EMS that could react. Retrofitting EMS for small installations not lucrative

Discussion questions

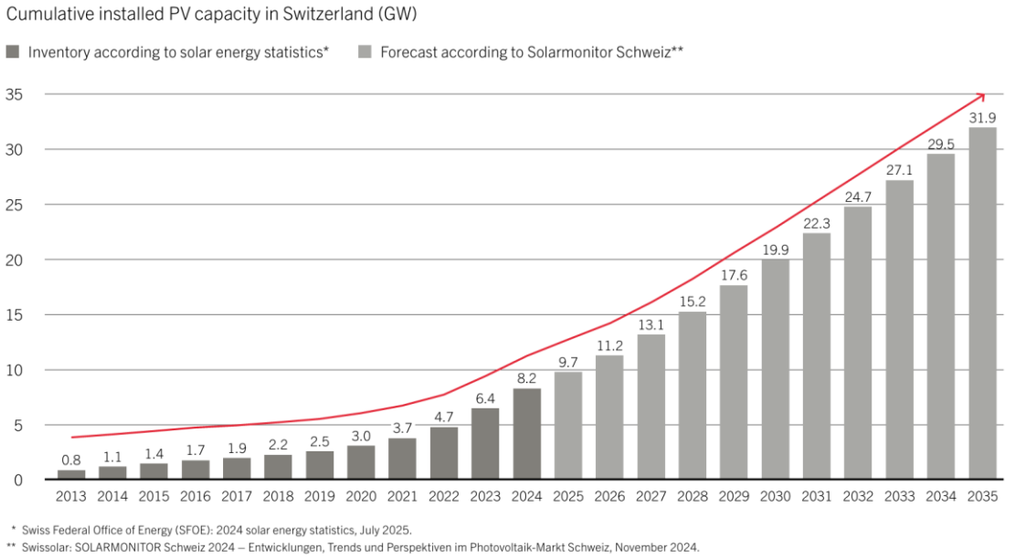
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Complementary measures to PV downward flex

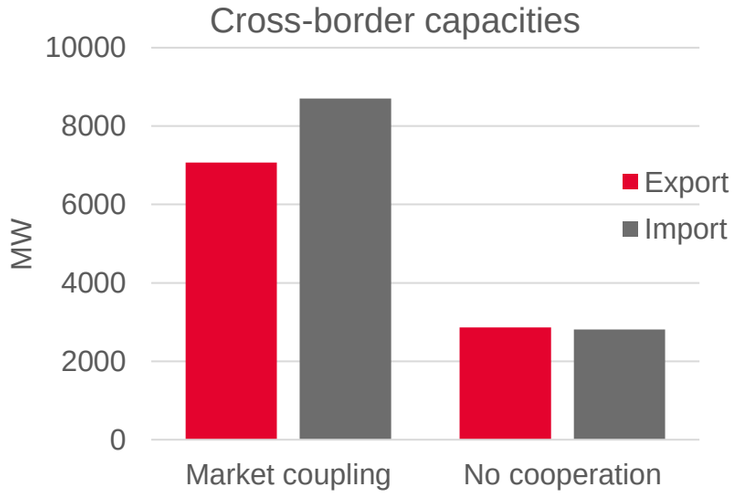
BRP feedback: Decisive factors

- Spot markets day-ahead & intraday CH
- Cross-border trading & electricity agreement
- Batteries
- Developments & prices in other countries

Discussion questions



* Swiss Federal Office of Energy (SFOE): 2024 solar energy statistics, July 2025.
** Swissolar: SOLARMONITOR Schweiz 2024 – Entwicklungen, Trends und Perspektiven im Photovoltaik-Markt Schweiz, November 2024.



Data: Ecoplan Study 2025 / Visualisation: Swissgrid

Downward flexibility – recent developments at VSE

Challenges

- PV plants are controllable for DSOs in emergencies with binary contacts acording to NA/EEA
  - <30kW: Curtailable to 0%
  - 30-100kW: Curtailable to 0, 30, 60%
  - >100kW: Curtailable in 10% increments
- Many DSOs do not plan dynamic emergency control, especially not for small PV (NL 7)
- In limited downward flex situations larger PV plants are expected to reduce their power already
- Grid restoration may be a use case for DSOs & TSO, but for downward flex in normal operation, BRPs are a key player and driver



New paper on control of flexible resources in the distribution grid

- Suggests analysing need, effort & benefits of standardising the interface between flex user & flex owner

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Next steps

- Ongoing survey among BRPs with metering points
- Feedback is welcome for future studies

PV4Balancing and Market Design 2.0

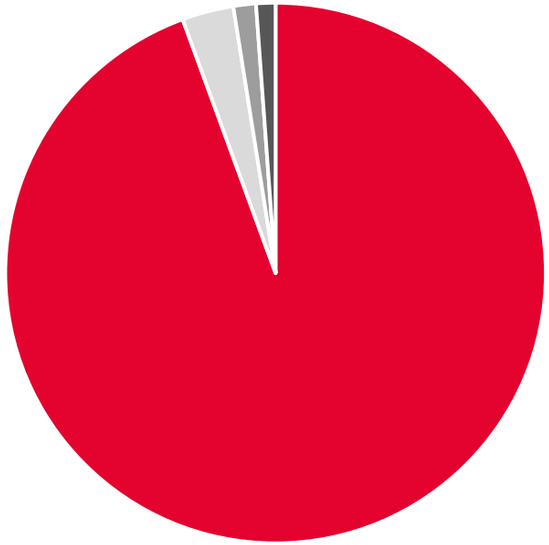
Dona Mountouri
Senior Specialist Market & Product Design

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Current mix of prequalified resources for ancillary services in Switzerland

Prequalified resources power:

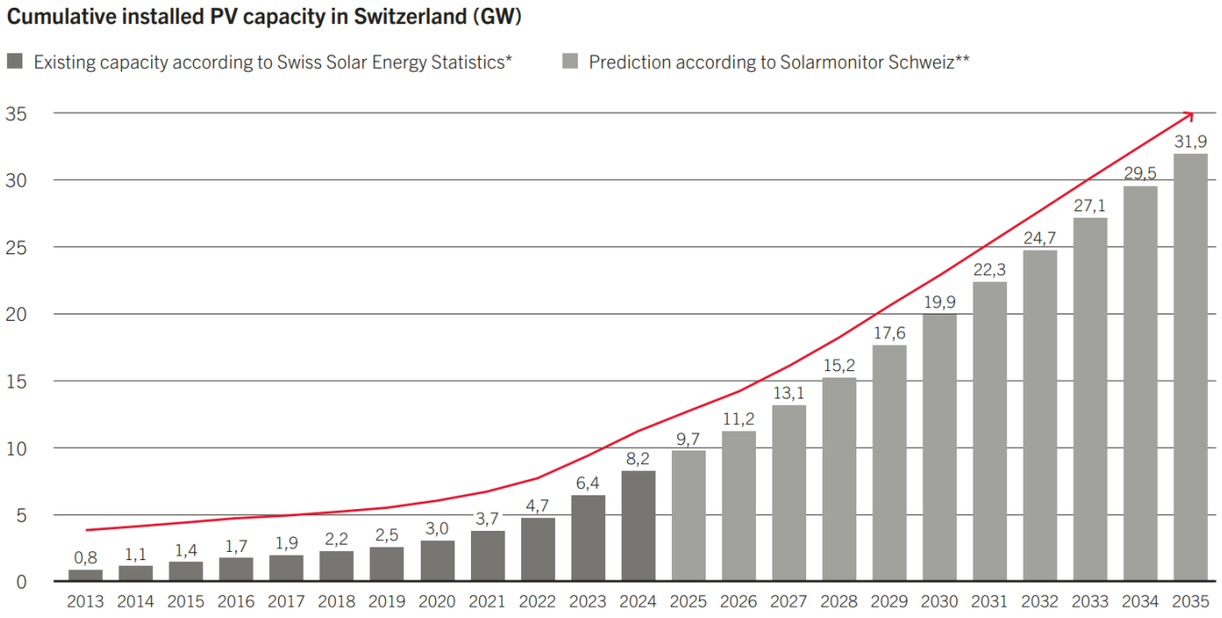
- Significant prequalified power capacity
- Predominantly relying on a single technology: hydropower, including run-of-river, pumped storage, and reservoir power plants
- Introduction of batteries into the market underway



- **Hydropower (Pump Storage + Reservoirs)**
- **Hydropower (Run of River)**
- **Batteries**
- **Other**

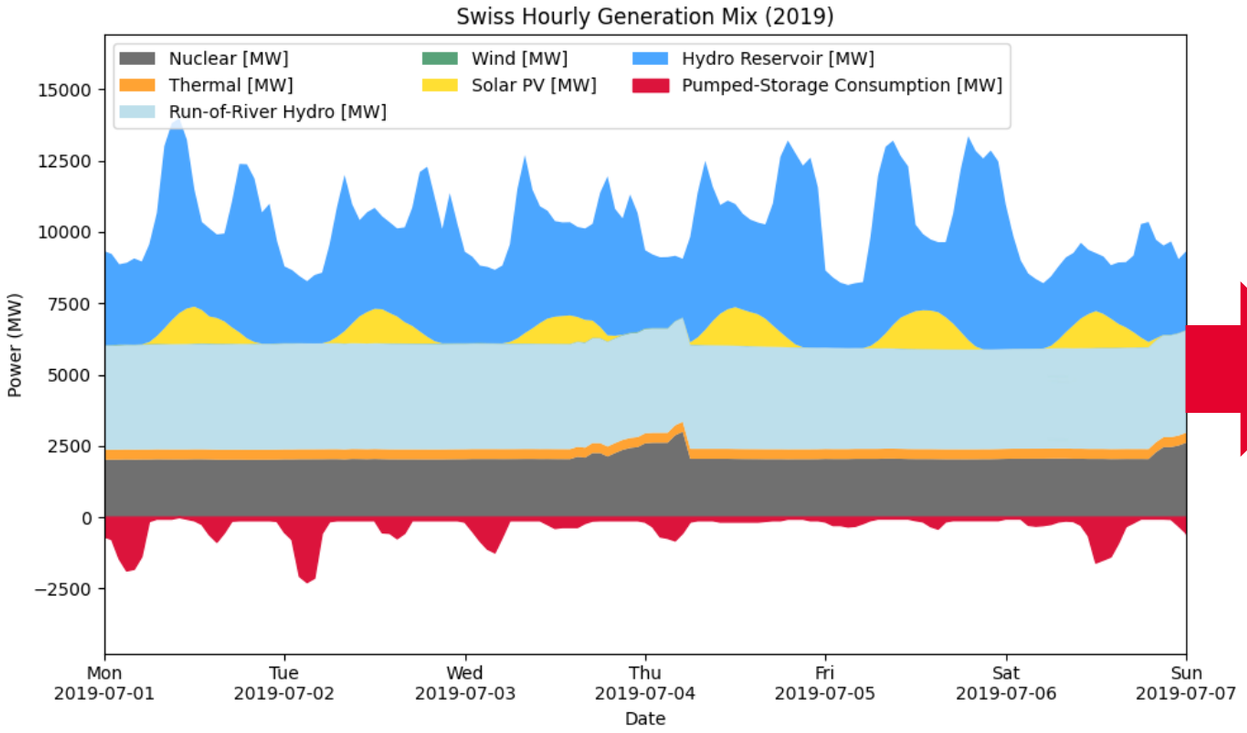
Energy Mix in Switzerland:

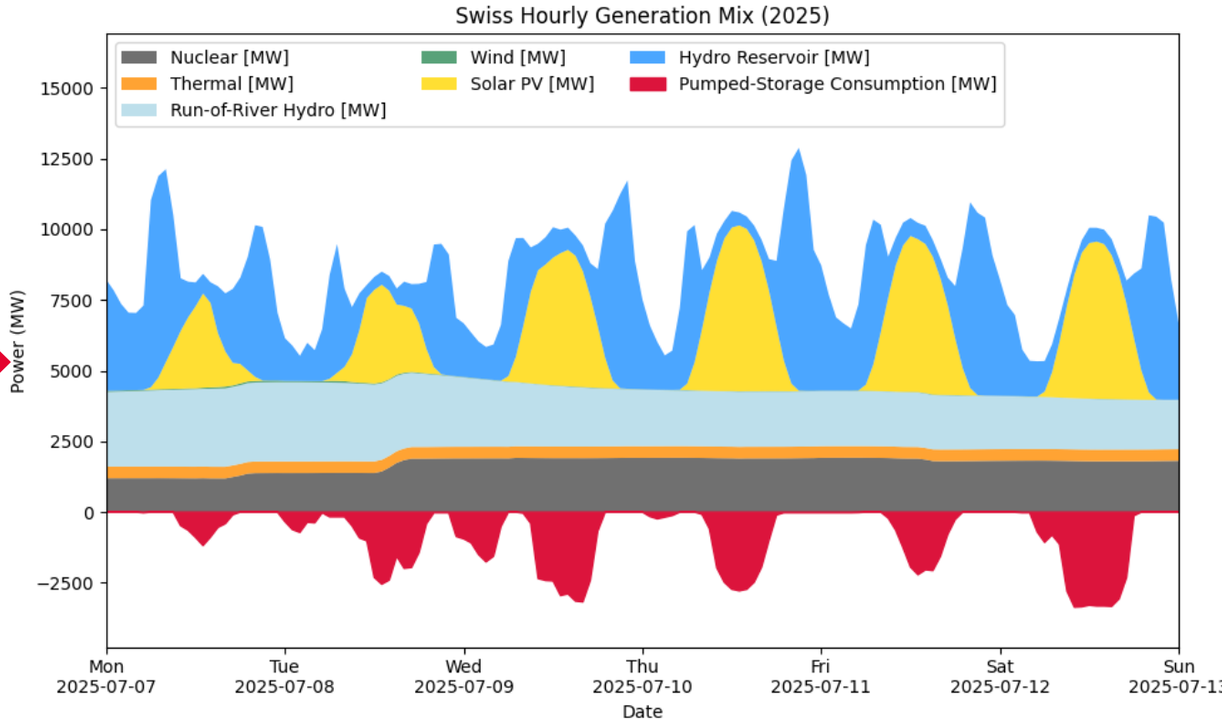
- Most of the energy still comes from hydro and nuclear
- PV installation are rising fast



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Energy transition and impact on the hourly generation mix and downward liquidity



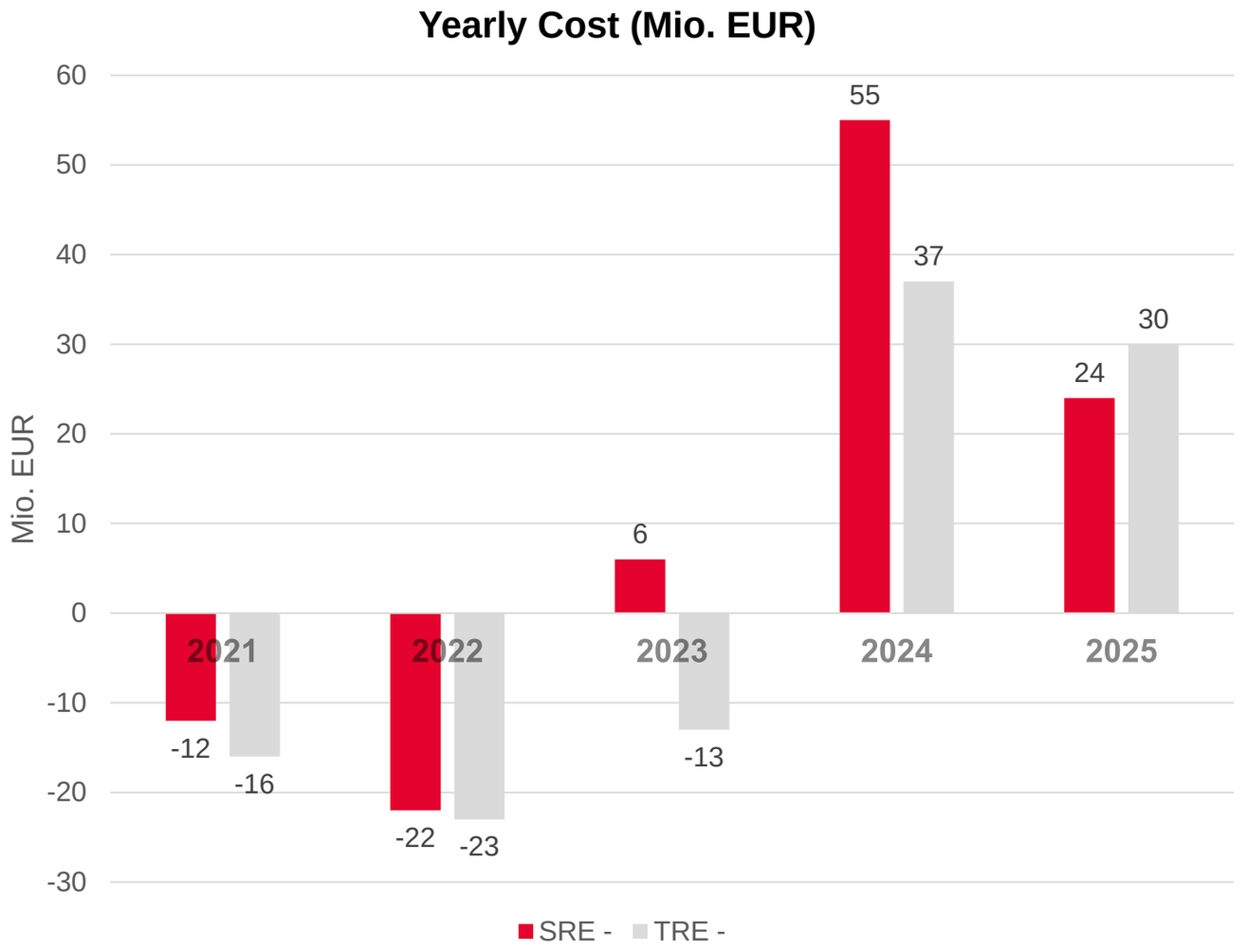


What happens at 40 GW PV ?

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Cost evolution for downward regulation

- The lack of downward regulation significantly affects the total system cost for both SRE and TRE downward regulation.
- Until 2022, both SRE- and TRE- where both offered with positive prices (BSPs pays to lower its production).
- This trend has reversed, with 2024 being the most challenging year in terms of cost of downward regulation.
- Although the situation is improving, the overall indication remains that downward regulation is offered at negative prices (BSP is paid to reduce its production) both SRE- and TRE-.



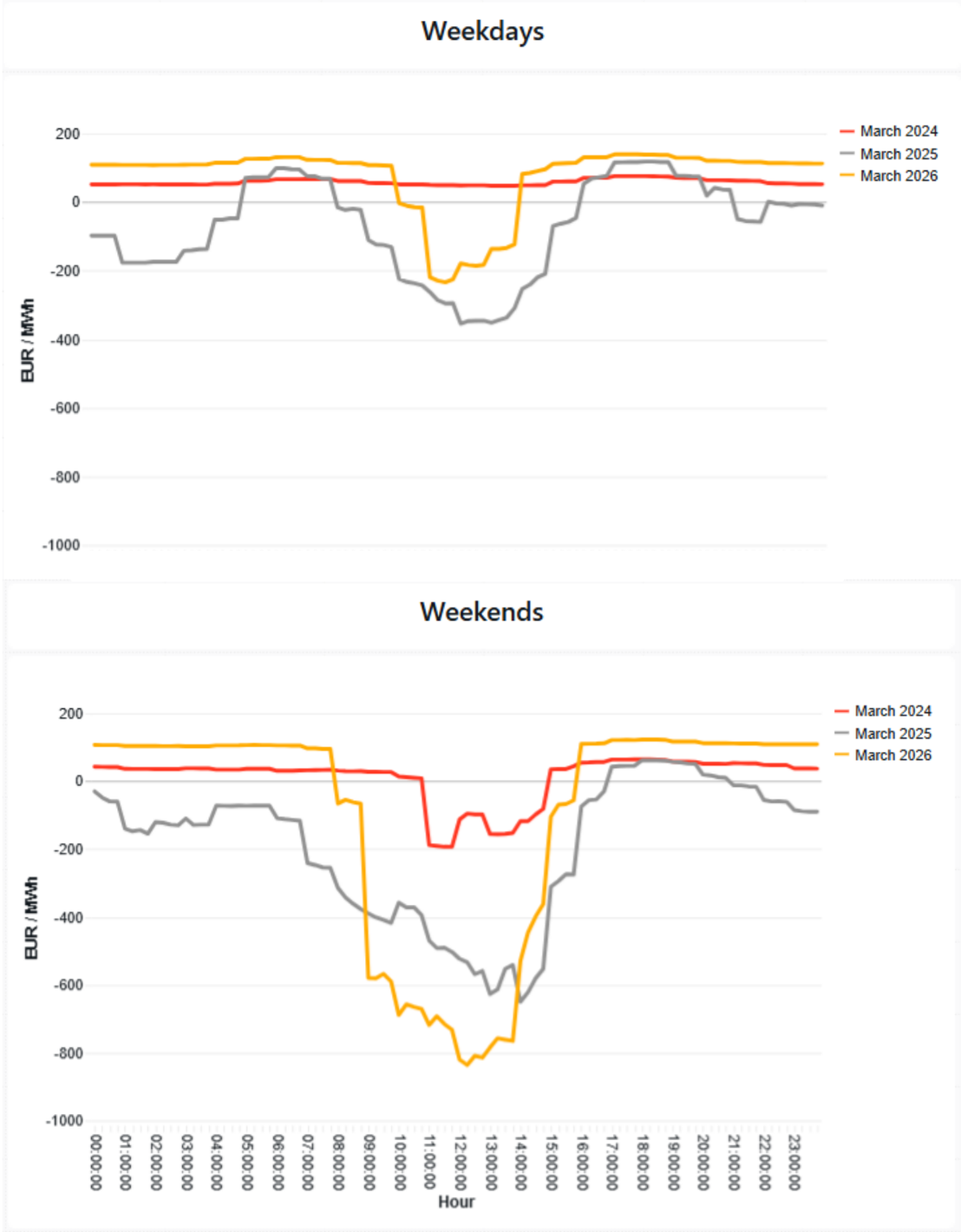
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Ancillary services price evolution

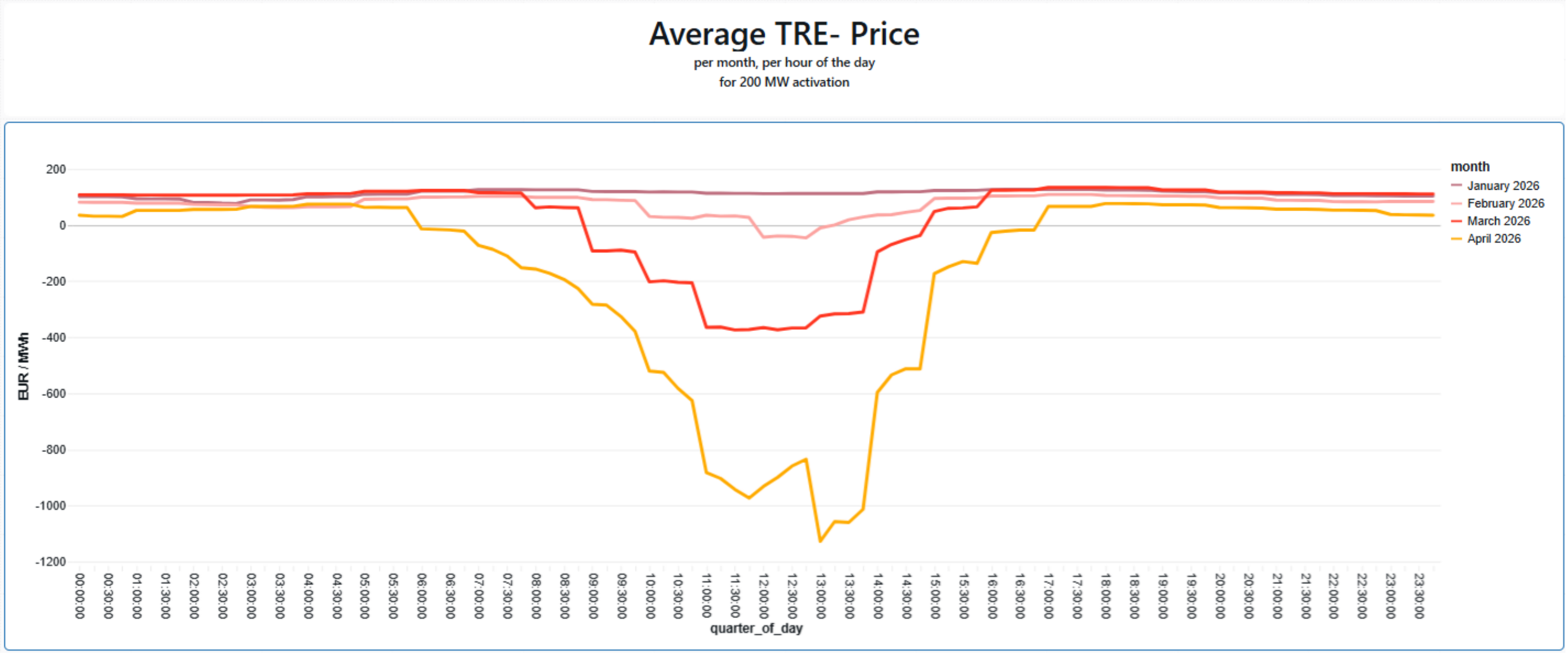
The chart compares the average price for a 200 MW TRE-activation in March 2024, 2025, and 2026.

- In **March 2024**, prices are stable and positive as downward regulation is available. Slightly negative prices are visible on midday weekends.
- In **March 2025**, the picture begins to change. Negative prices start appearing in the midday window, also during the week.
- In **March 2026**, prices in that same midday window are now reaching -400 to -900 EUR/MWh, consistently across the entire month. Severe on weekdays, dramatically worse on weekends.

The explanation: PV growth is displacing hydro during midday hours.



Energy Transition and Impact on (Downward) Flexibility



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Energy Transition and Impact on (Downward) Flexibility

Ancillary Services Price: Price Evolution and Liquidity

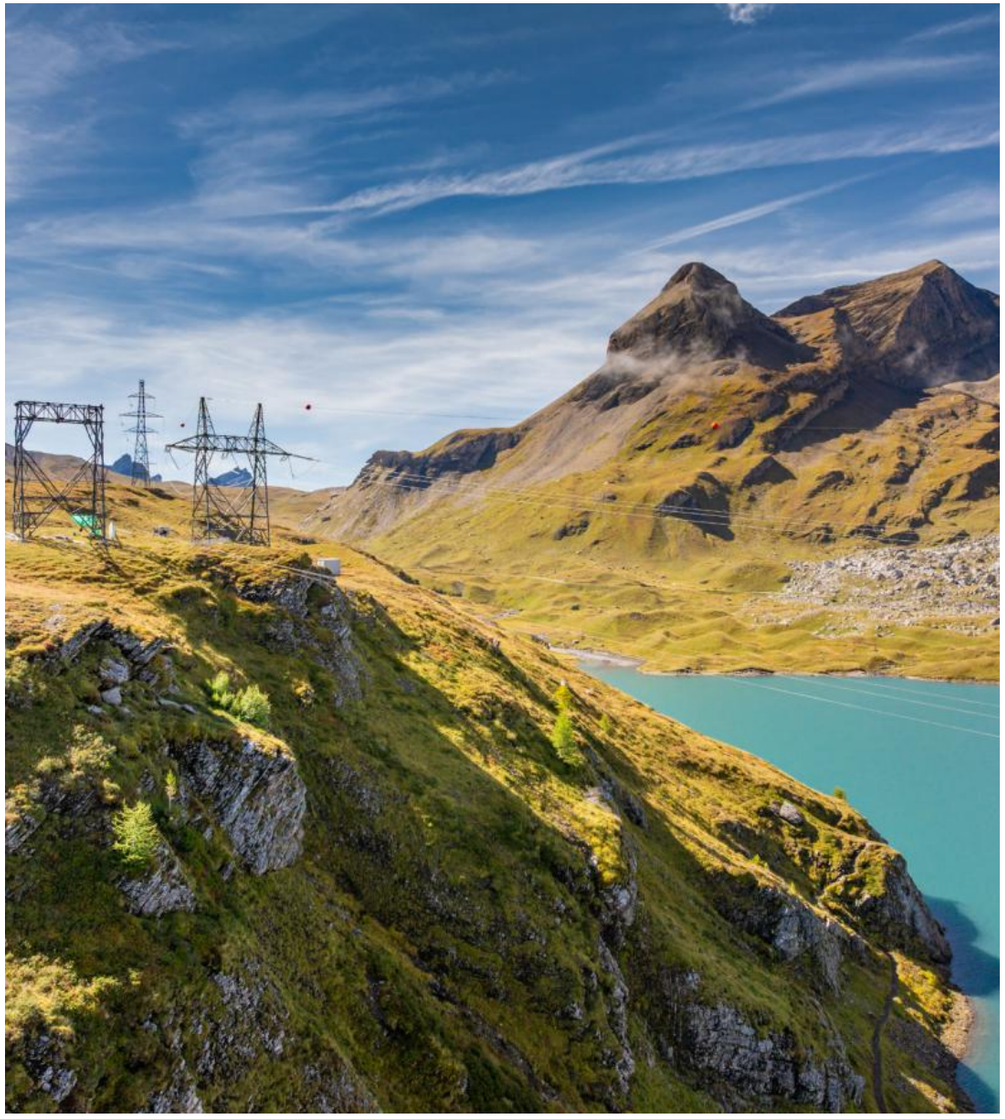
Main Takeaways:

- The energy mix is changing very fast
- With a change in generation mix, comes a change in flexibility availability
- The main struggle for flexibility, especially downward is during low load, low export and high renewable penetration
- With the main source of flexibility for the country (hydropower) being mostly off during high PV infeed, high prices are showing scarcity.

Swissgrid continues its effort to reduce demand and increase supply during these moments.

Increase supply of flexibility through:

- PV for Balancing Project (PV4B)
- Market Design 2.0 for balancing (MD2.0)



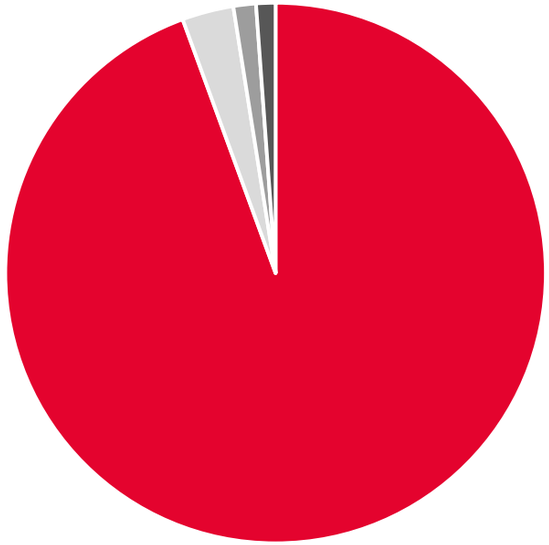
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Current PQ mix in Switzerland

Ancillary Services Price: Price Evolution and Liquidity

PQ power:

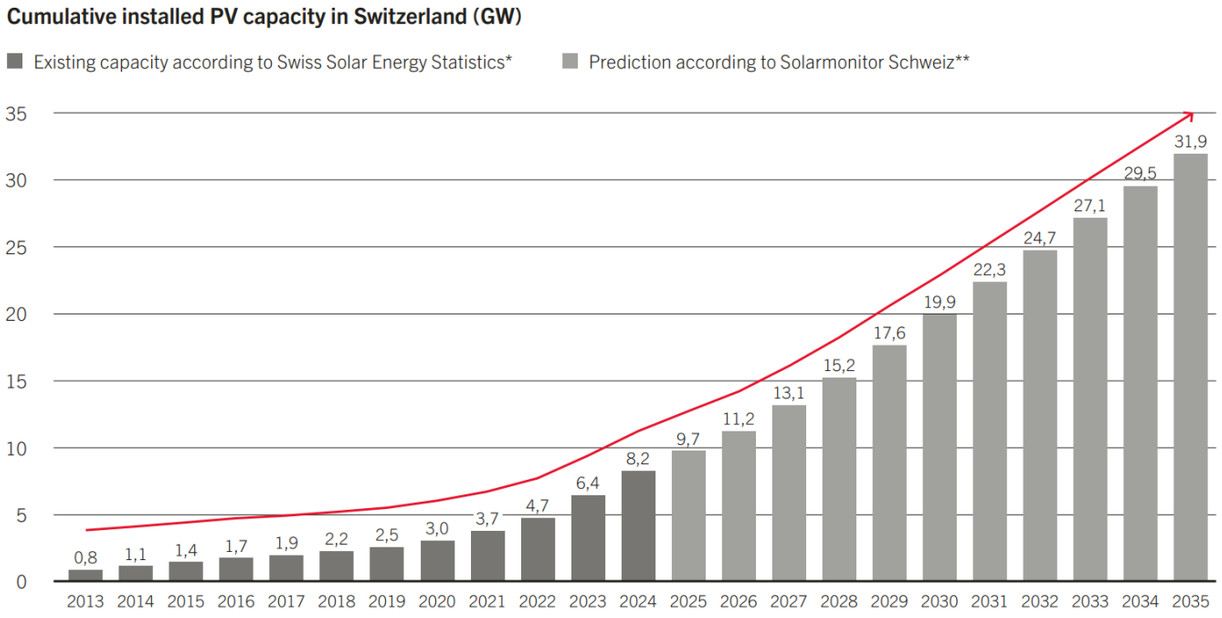
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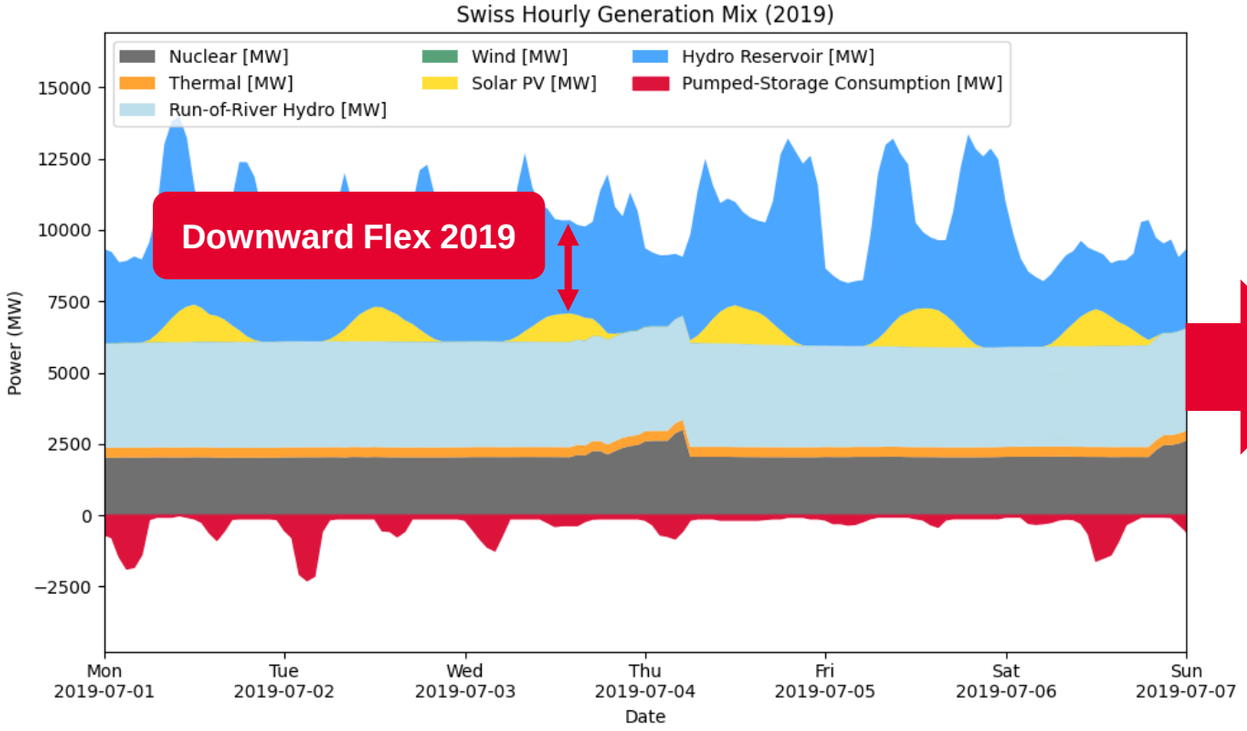
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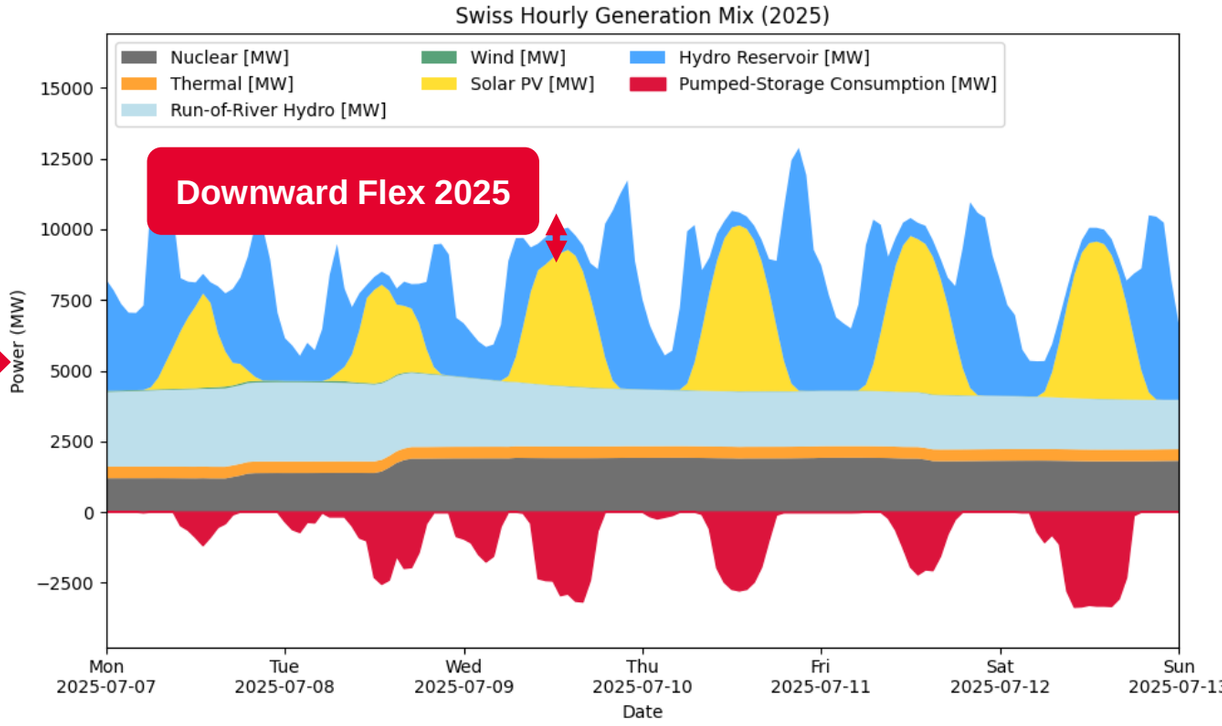


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Energy Transition and Impact on (Downward) Flexibility

Ancillary Services Price: Price Evolution and Liquidity





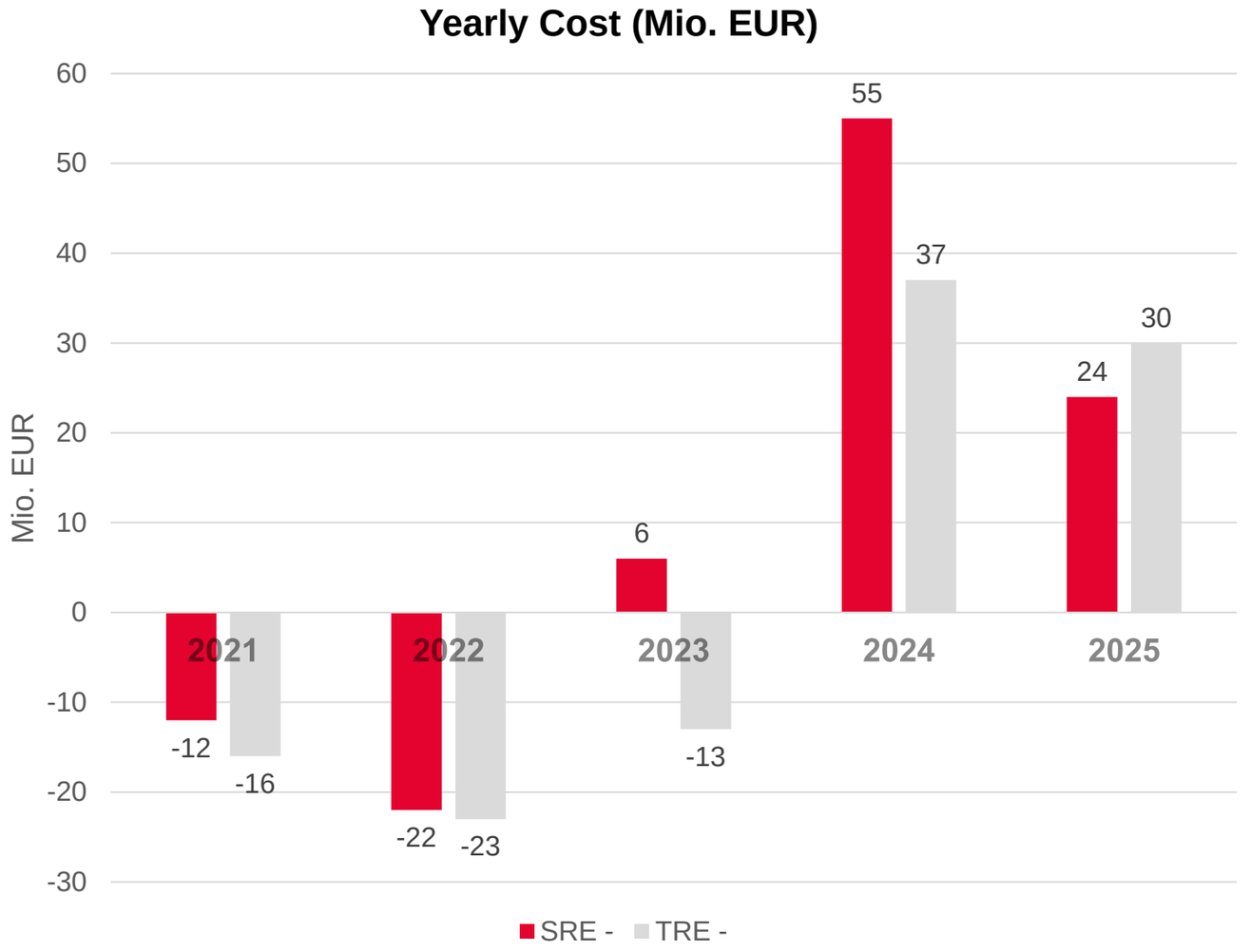
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Ancillary Services Price: Price Evolution and Liquidity

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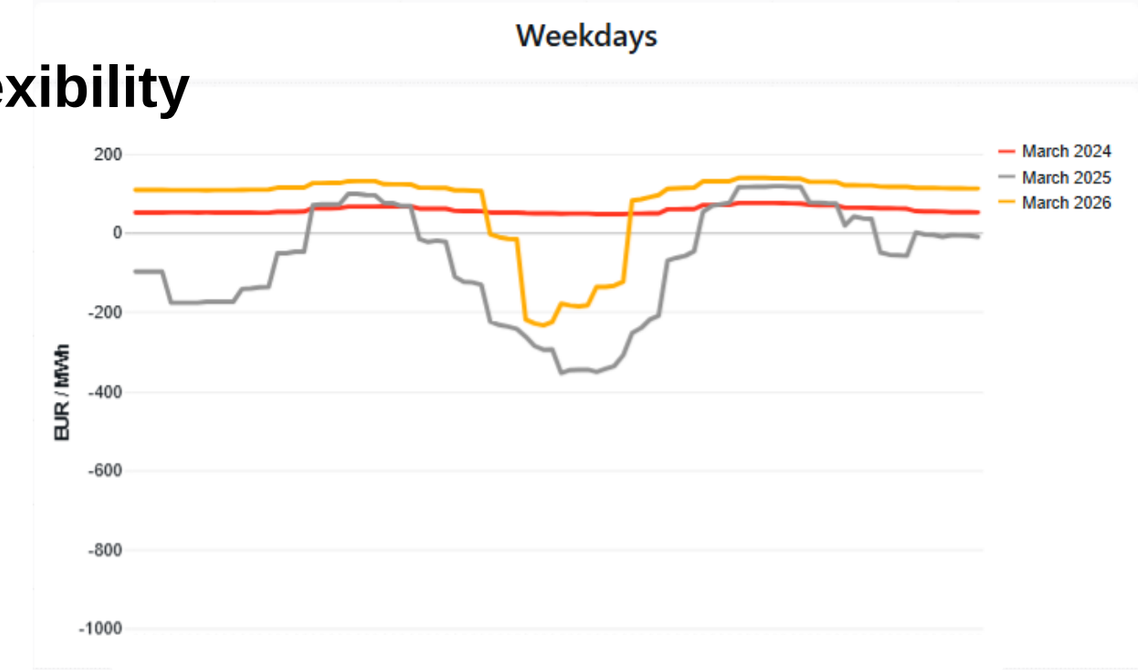
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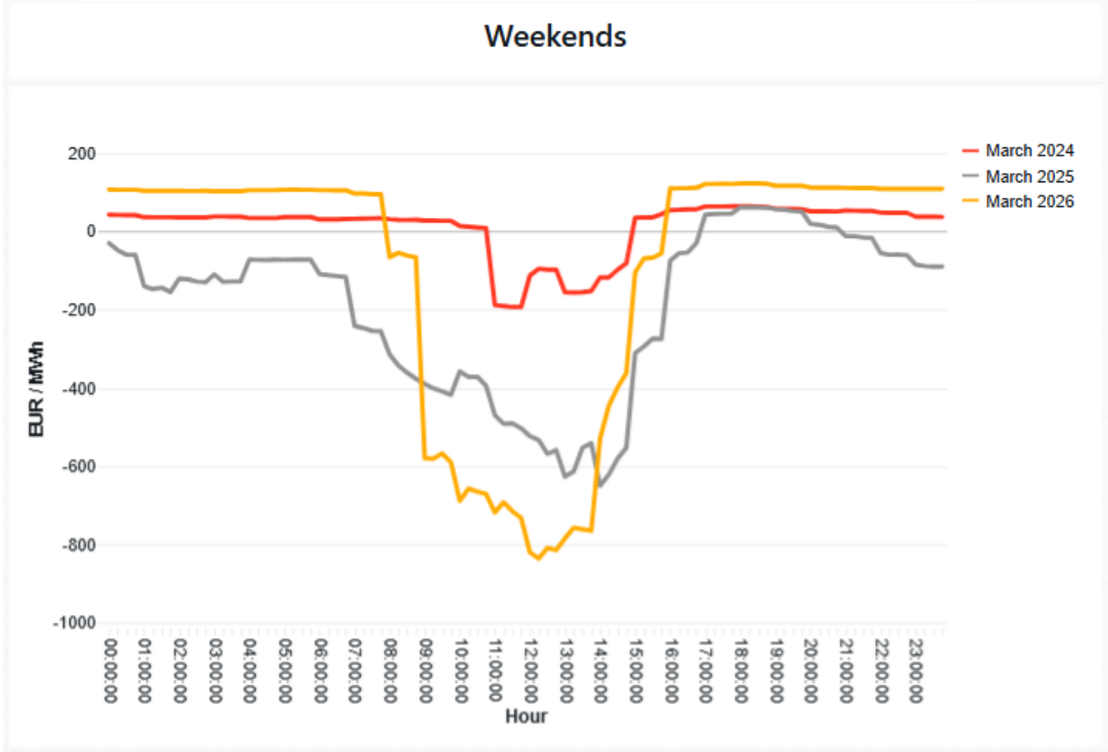
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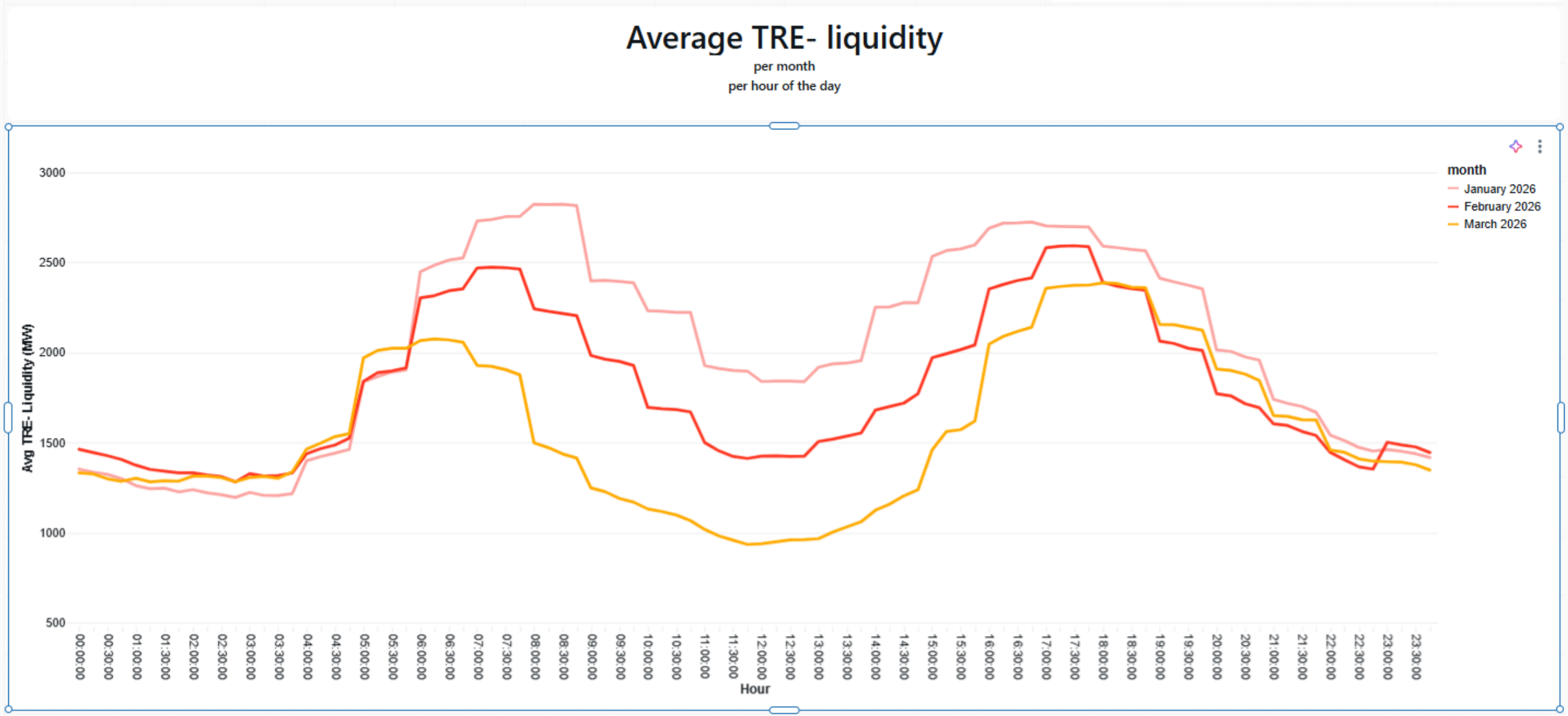
The explanation is straightforward: PV growth is displacing hydro during midday hours. As PV floods the system, the flexible resources that historically provided downward regulation are pushed out of the market.





Energy Transition and Impact on (Downward) Flexibility

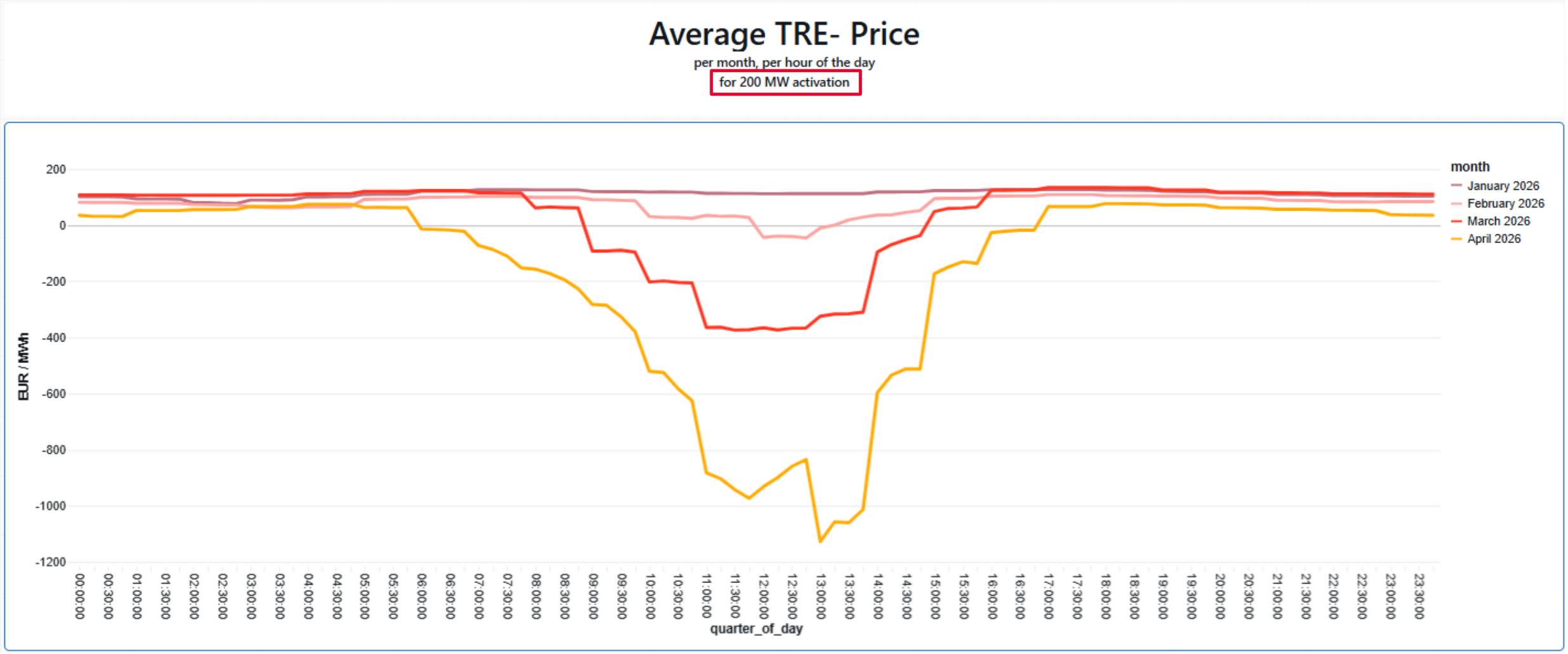
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Ancillary Services Price: Price Evolution and Liquidity



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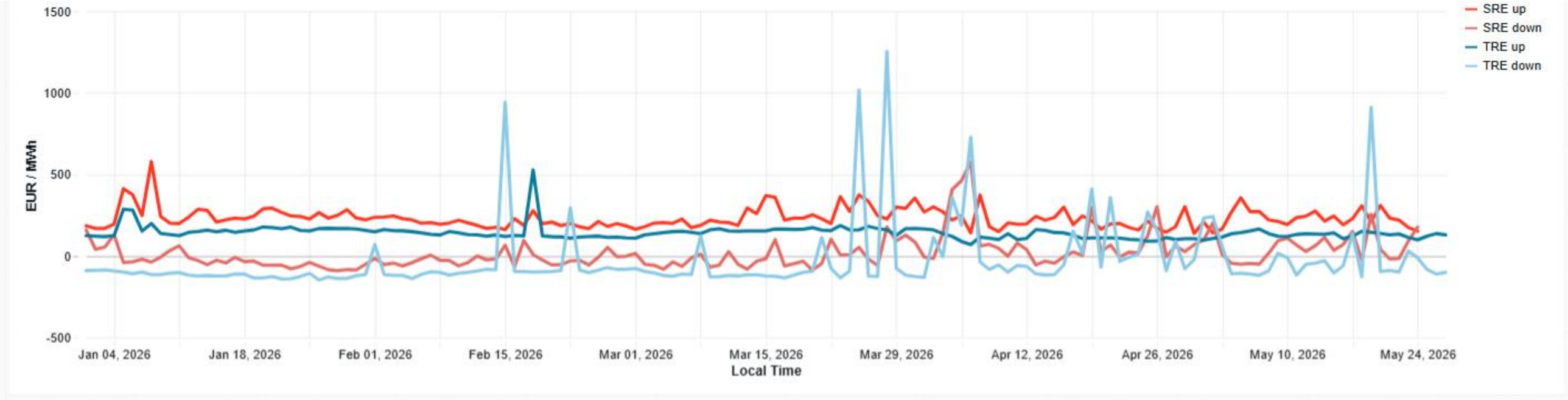
Energy Transition and Impact on Flexibility

Ancillary Services Price: Price Evolution and Liquidity

The graph below illustrates the daily average prices for various balancing energy products, ranked from the most to least expensive during the first two quarters so far:

- SRE+
- TRE+
- SRE-
- TRE-

- SRE products tend to be pricier than TRE products, and upward regulation commands higher prices compared to downward regulation.
- The peaks in TRE- reflect the impact of high downward volume requests during scarcity periods.
- SRE- exhibits lower price peaks due to the imposed price cap of 1000 EUR/MWh.



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Energy Transition and Impact on (Downward) Flexibility

Ancillary Services Price: Price Evolution and Liquidity

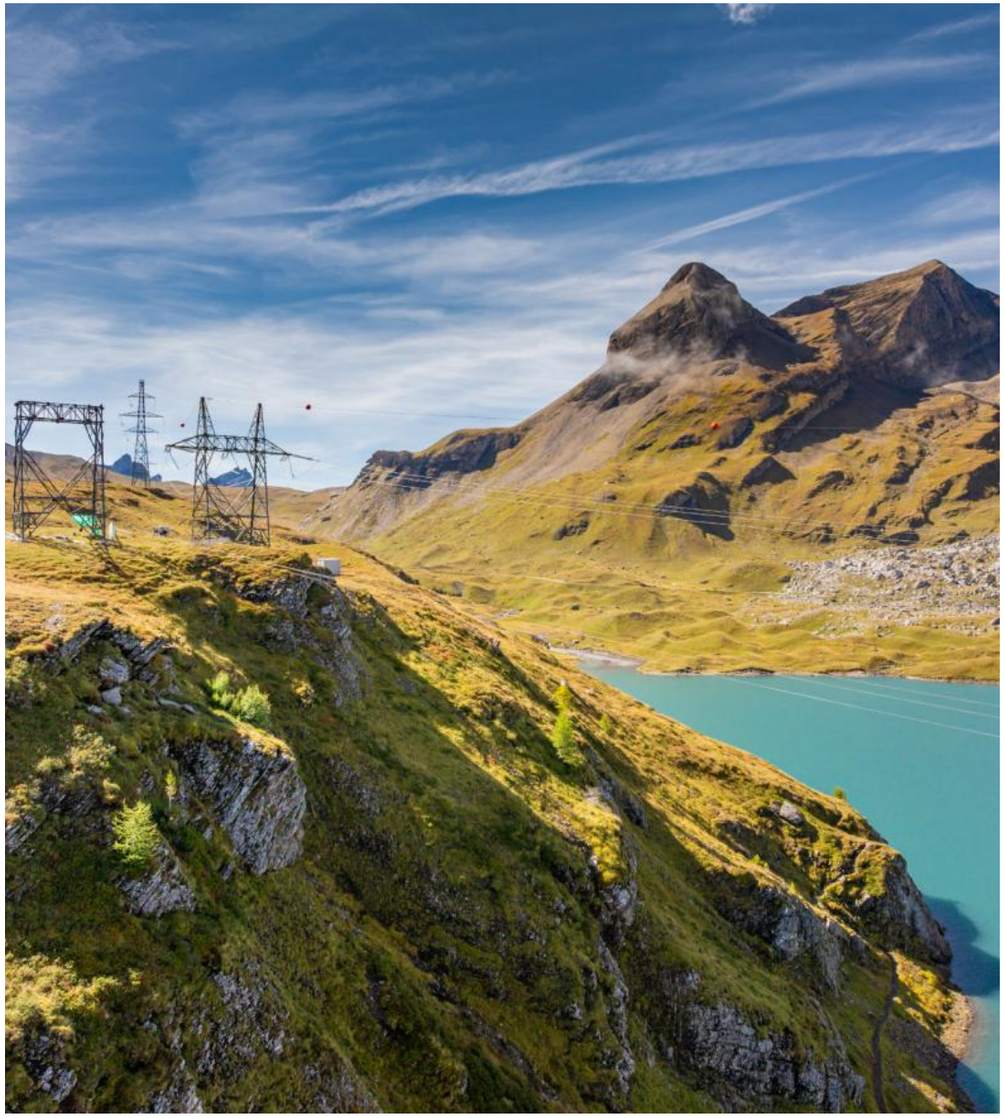
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- PV for Balancing Project (PV4B)
- Market Design 2.0 for balancing (MD2.0)



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Market design 2.0 for Balancing

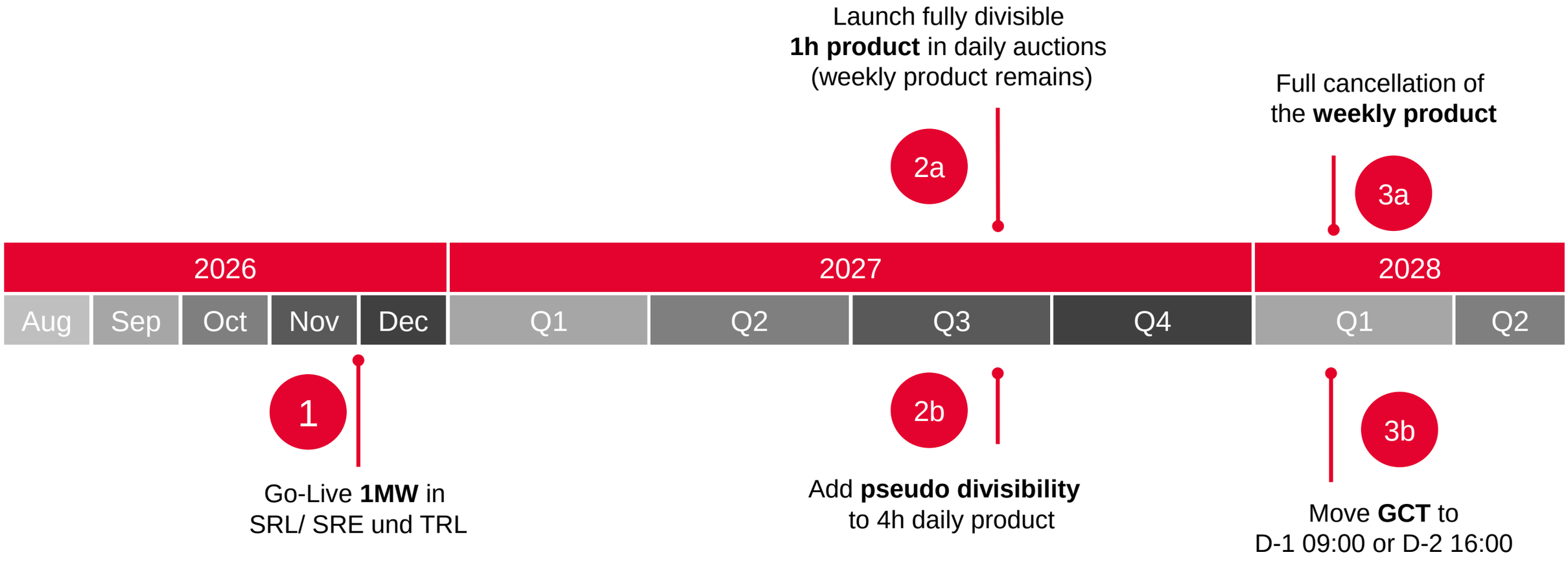
The Swissgrid consulting the Branche decided on the following changes

	Current Setup	Swissgrid final decision
Procurement Stages	Long-term + weekly + daily procurement	**Decision 1:** Long-term + daily procurement (weekly product will be discontinued)
GCT	(W-1) + (D-2,3,4) at 14h30	**Decision:** GCT: D-2 at 15:30 Results: 16:00
Results	(W-1) + (D-2,3,4) at 15h00	
Product duration	1w + 4h	**Decision:** 4h + 1h products (Clearing together)
Direction	positive or negative	positive or negative
Min. bid size	5 MW	**Decision:** 1 MW in all markets
Granularity	1 MW	1 MW
Divisibility	indivisible	**Decision:** 1h fully divisible 4h fully indivisible (incl. pseudo divisibility with 5MW steps) → First Step at 30MW
Pricing	Pay-as-bid	Pay-as-bid

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Market Design 2.0 for Balancing

The implementation will be done in three steps



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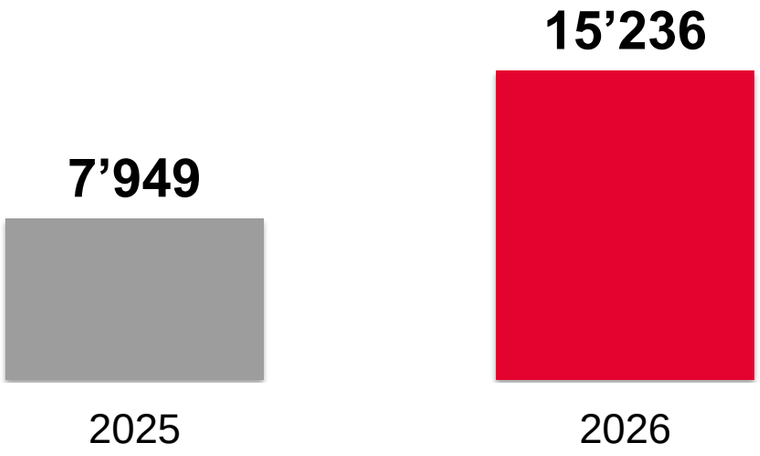
PV4Balancing

Higher offer volumes and better delivery quality than 2025

OFFER VOLUME

+92%

PV_TRE offers, June–August



MWh offered over the same summer period

Peak market offers: 28 MW in Phase 1 and 31 MW in Phase 2

Offer bidding

Across all participants, overbidding fell from around 39% of timestamps with offers at the start of Phase 1 (Jun–Aug 2025) to 16% recently (Aug–Oct 2026). Pricing is also more differentiated.

Delivery quality

Gained experience has improved PV control and response. Median delivery rate increased from 84% in Phase 1 to 93% in June–August from 2025 to 2026.*

Baselining

Forecasts and baselines have improved over time. Lower overbidding and better delivery quality are consistent with this improvement.

*Median of valid BSP-month results, not individual activations. Delivery rate is delivered energy based on Swissgrid’s baselining divided by requested energy.

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PV4Balancing

Remaining challenges to wider, reliable participation

A LARGE VOLUME GAP REMAINS

31 of 60 MW

Observed Phase 2 peak equals only 52% of the permitted offer volume



Peak offers grew by just 3 MW between phases. More permitted volume has yet to translate into market offers.

Uncertain business case

Lower and less predictable PV_TRL remuneration makes it harder to attract additional PV owners.

Technical scaling and interfaces

Reliable control of more plants requires investment. Additional aggregators complicate data exchange and operational coordination.

Day-ahead reserve forecasts

The Latest data indicates 60–70% forecast accuracy. Underestimation occurs more than overestimation.

Occasional poor activation

Delivery can still be weak during unstable weather and activations lasting several quarter-hours, despite improved plant response.

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See you again in a year



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Presentations are available on Swissgrid website:
https://www.swissgrid.ch/en/home/customers/topics/bgm.html#operational-documents

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