WG Energy Solutions of December 16th 2024

Hybrid meeting

16/12/2024

For a smooth teleconference with 30+ people …
Some rules apply

- Please put yourself on mute at any time that you are not speaking to avoid background noise.
- If you receive a call, please ensure that you do not put this meeting **on hold.**
    - You can quit and reconnect later on.
    - You will be muted or kicked out of the session, if necessary.
- You will be requested to hold your questions for the end of each presentation.
    - Should you have a question, please notify via Teams or speak out if you are only via phone.
    - Share your question (with slide number) in advance so all participants may follow
    - Before you share your question, please announce yourself.
- If you have a poor internet connection, please dial-in.
- Finally, please be courteous and let people finish their sentences.
    - It is practically impossible to follow when 2 people are speaking at the same time in a teleconference.

Agenda

09:00 – 09:05: Welcome and approval MoM

09:05 – 09:45: Imbalance Price – Outliers Analysis

09:45 – 10:30: Real-Time Price – Evaluation parallel run

10:30 – 10:55: BRP-BSP – feedback workshops

10:55 – 11:25: Incentive ‘24 – BRP Settlement – public consultation report & final designs

11:25 – 11:55: T&C BRP – Update & final design proposal

11:55 – 12:15: Incentive ‘24 & ’25 - Data provision roadmap

12:15 – 13:00: Lunch

13:00 – 13:15: Feedback on the public consultation of the T&C BSP FCR

13:15 – 13:25: Incentive ‘25 - Knowledge Management

13:25 – 13:45: Incentive ‘25 – LV Prequalifications

13:45 – 14:05: Incentive ‘24 – Energy Management Strategies – Feedback public consultation

14:05 – 14:35: EU & BE Balancing Program Update

14:35 – 15:05: Working Plan 2025

15:05 – 15:15: AOB

Minutes of Meeting for approval

Minutes of Meeting of WG Energy Solutions of 26/11/2024

Comments: /

Suggestion to approve:

- The MoM of WG Energy Solutions of 26/11/2024

Imbalance Price – Outliers Analysis

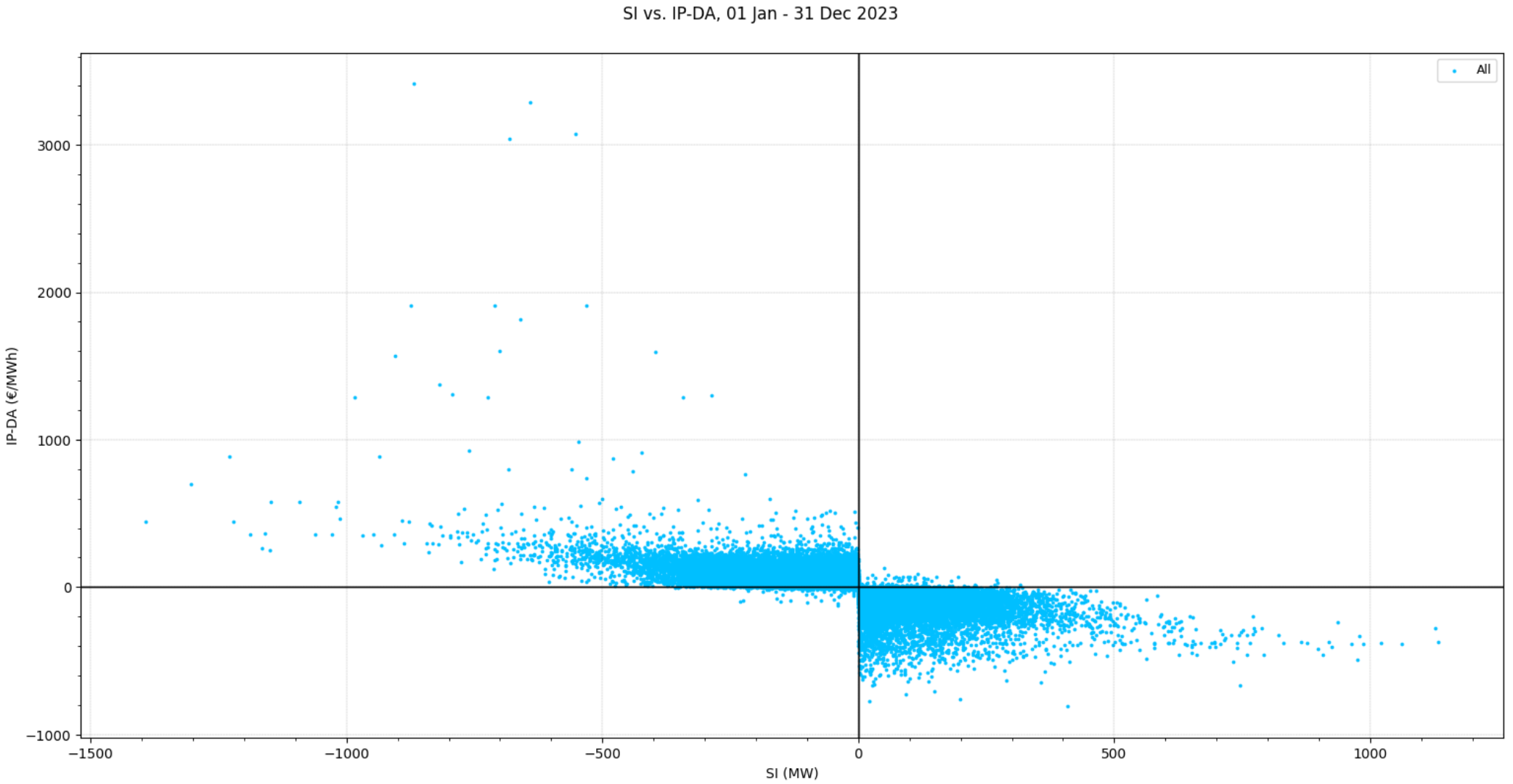
Elise Aulanier

In short…

- Objective: **Analyse if and why the imbalance price doesn't always represent the real-time value of energy**
- Key results:
  - For 2023: **for 7.5% of the QHs, the imbalance price does not efficiently represent the system conditions**
  - **5 dynamics are identified resulting to these outliers:**
    - Steep (1st half) aFRR MOL
    - SI oscillation & aFRR linked bids & steep aFRR MOL & only final direction of activation considered in IP
    - mFRR undershoot & steep aFRR MOL
    - mFRR overshoot
    - IGCC
- Actions:
  - **Key recent & upcoming events** (connection PICASSO/MARI, SDAC 15', go-live aFRR T&C) are expected to have effects on these dynamics and will be further confirmed **in the evaluation plan imbalance price by end of 2025**
  - **Remaining insights will be tackled through the next evolution of the Imbalance Price** and thus integrated in the design note of real time price/IP evolutions (by end Q1'25)

We study the delta between last spot price and the Imbalance Price as a function of the System Imbalance for all QHs of 2023

1. Plot IP-DA = f(SI)



Source : Open data

Abbreviations: DA = Day-Ahead price; IP = Imbalance Price; MOL = Merit Order List, QH=Quarter Hour; SI = System Imbalance

4 main groups of outliers can be identified where the SI value is not sufficient to explain the price of real-time energy

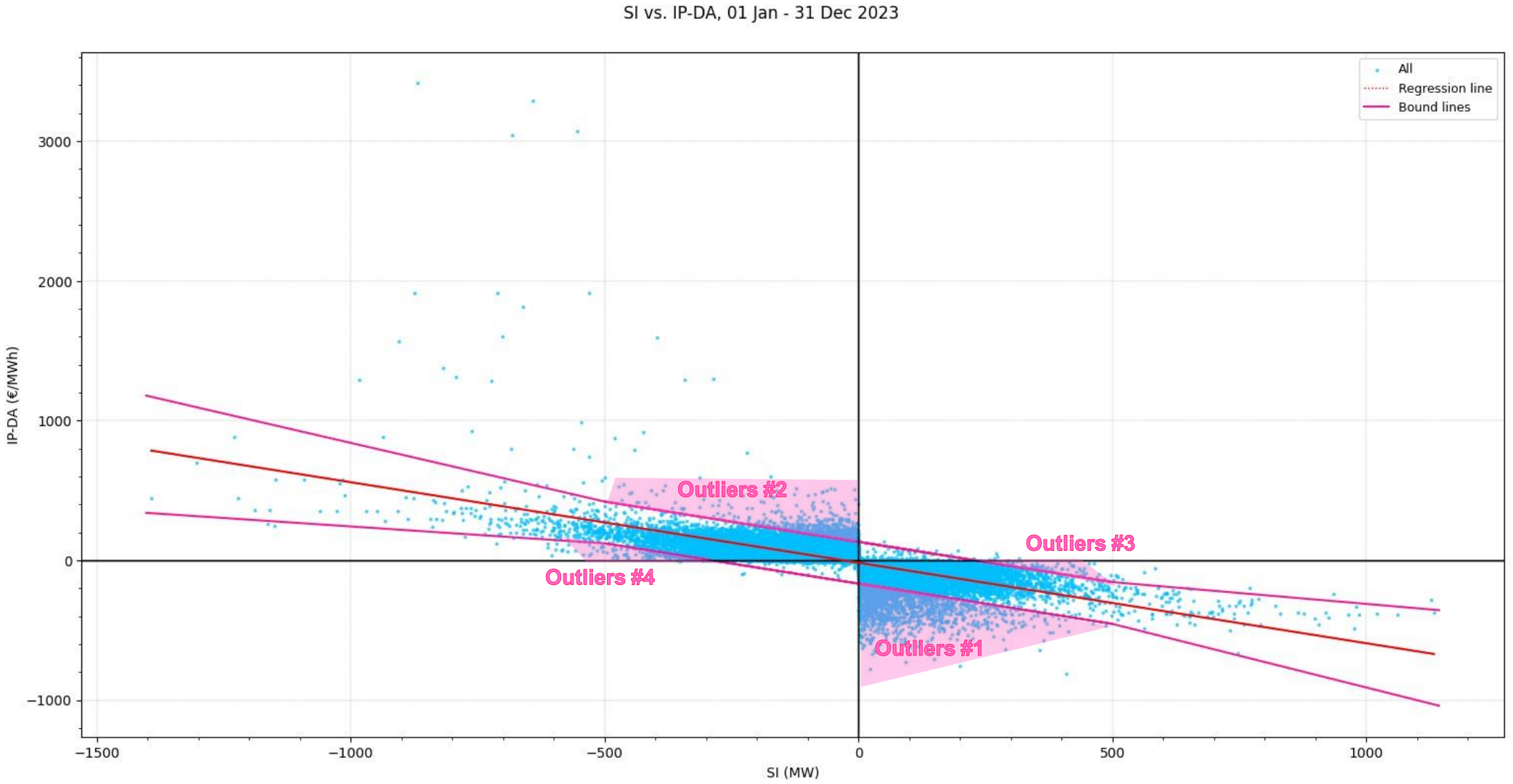
1. Plot IP-DA = f(SI)

2. Identify the outliers

Outliers = QHs where the IP does not seem to correctly reflect the real time value of energy

QH with high |SI| ➔ out of scope

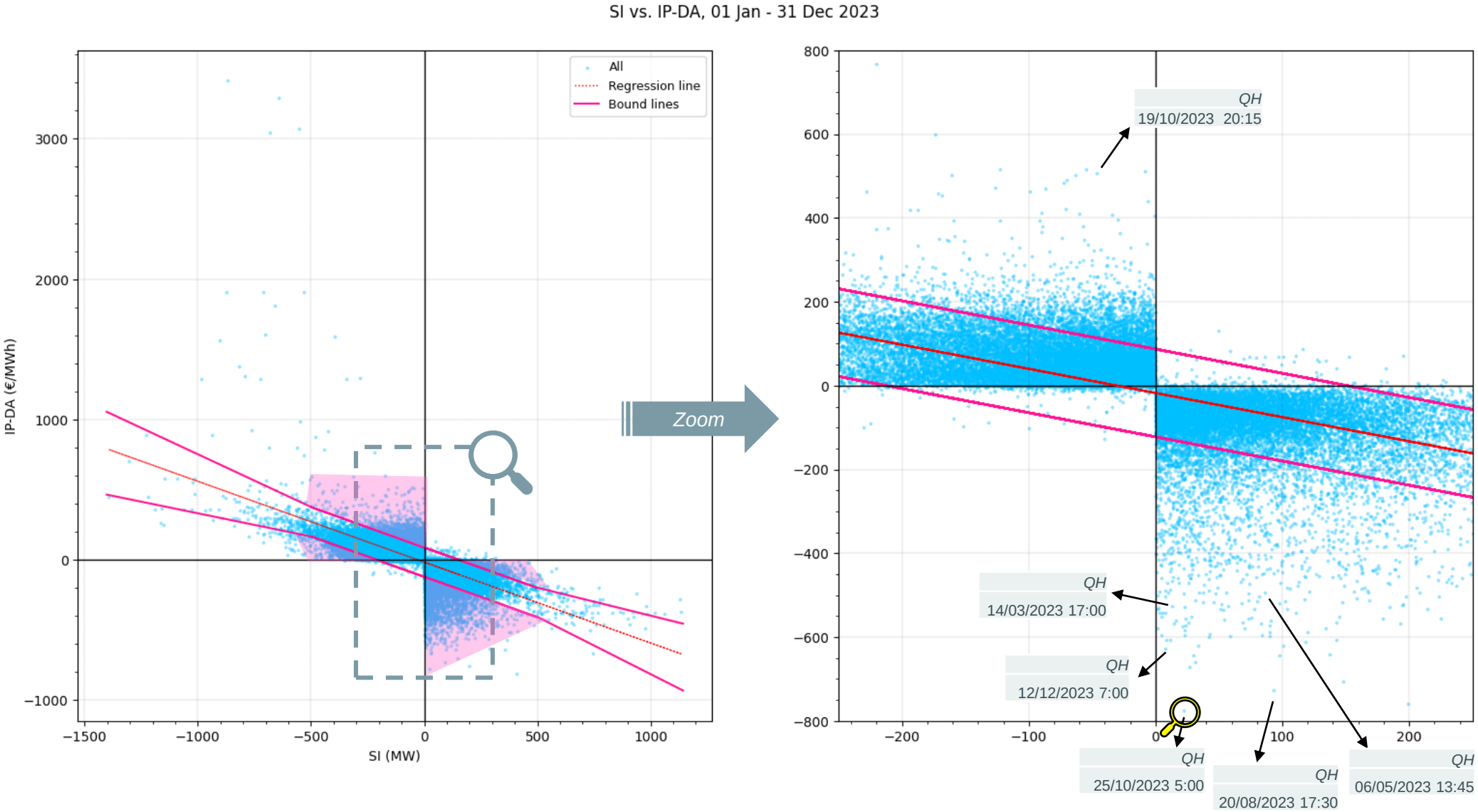
Outliers = 7,5% of total number of QHs



We manually analysed several QHs in the outlier zones to grasp the dynamics of the IP formation

1. Plot IP-DA = f(SI)
2. Identify the outliers
3. Deep dive in these QHs

Look into a&mFRR MOLs & activations, system 15' cumulated & system 1' instantaneous values, etc.



Example with one QH

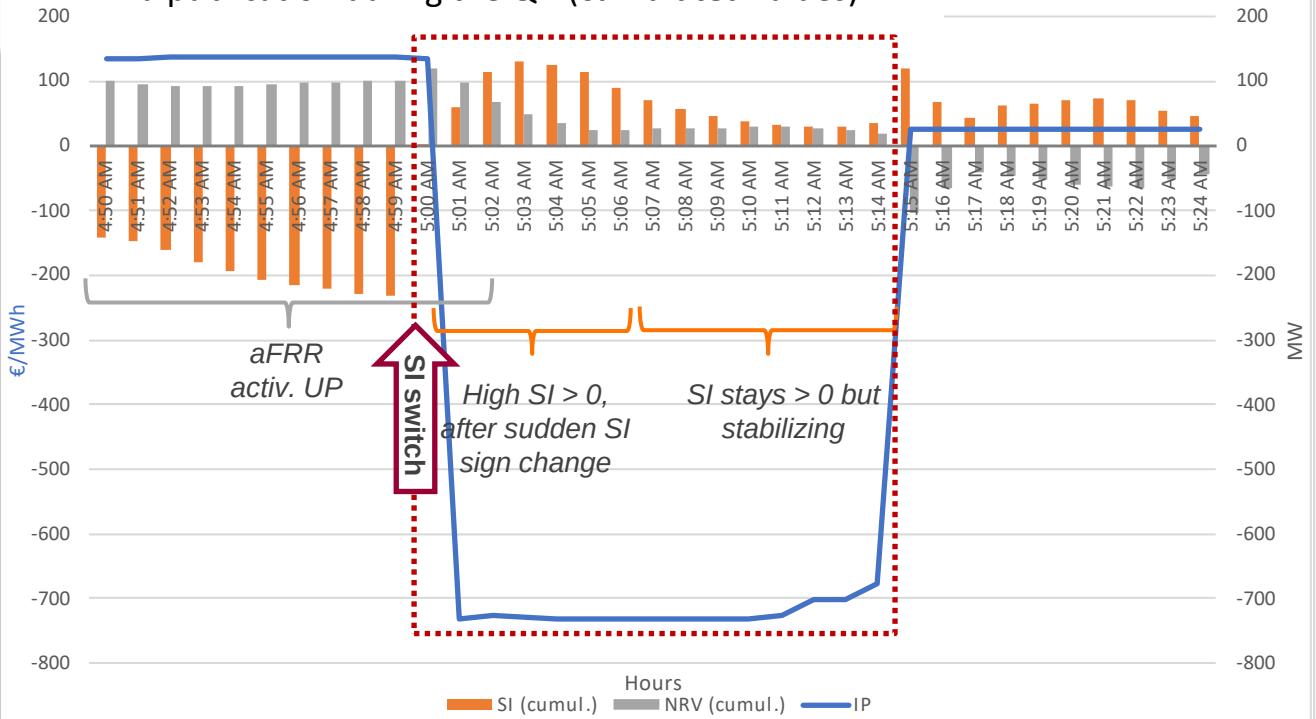
25/10/2023 5:00 ① (1/3) : what was the situation

1. Plot IP-DA = f(SI)
2. Identify the outliers
3. Deep dive in these QHs

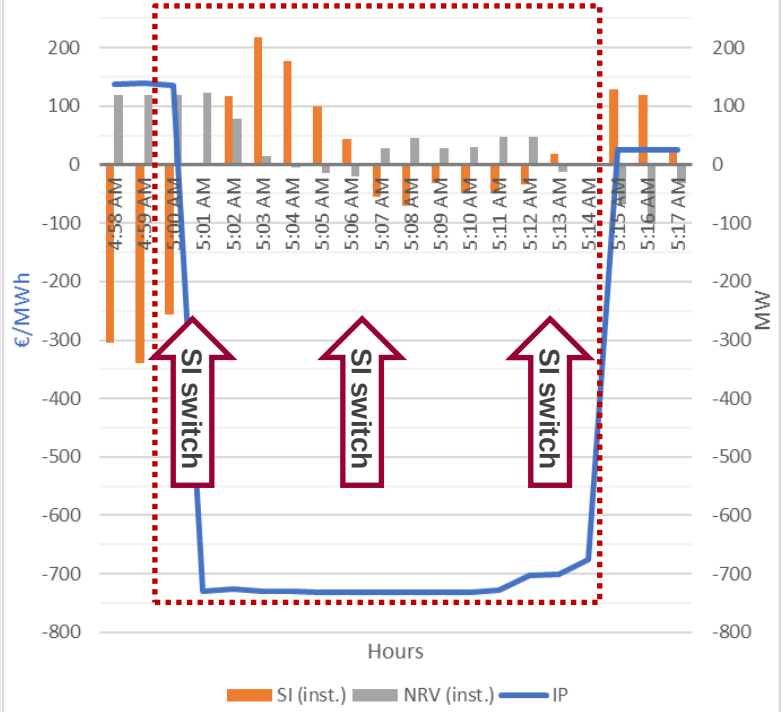
Look into a&mFRR MOLs & activations, system 15' cumulated & system 1' instantaneous values, etc.

- **THE CONTEXT:**

Elia publication during the QH (**cumulated** values):



What happened in the system (**inst**. values):



- **15' DATA:**

Qh	NRV (MW)	SI (MW)	IP (€/MWh)	DA (€/MWh)	MIP aFRR_UP (€/MWh)	MIP mFRR_UP (€/MWh)	IGCC+ (MW)	aFRR_UP (MW)	mFRR_UP (MW)	MdP aFRR_down (€/MWh)	MdP mFRR_down (€/MWh)	IGCC- (MW)	aFRR_down (MW)	mFRR_down (MW)
25/10/23 05:00	17	22	-676	99 *Hence, IP-DA = -776*	136	-	20	35	0	-676	-	24	13	0

- IP set by **aFRR down** with a small 15' activated aFRR down volume (13 MW) at end of the QH.
- **Large volume of aFRR activated up** in the previous QH and still at the beginning of this QH.
- Large **change in published SI sign at the beginning of the QH.** SI stabilized small with several instantaneous system switches.

Abbreviations: DA = Day-Ahead price, IP = Imbalance Price, MDP = Marginal Decremental Price, MIP = Marginal Incremental Price, MOL = Merit Order List, NRV = Net Regulated Volume, QH=Quarter Hour; SI = System Imbalance

Example with one QH

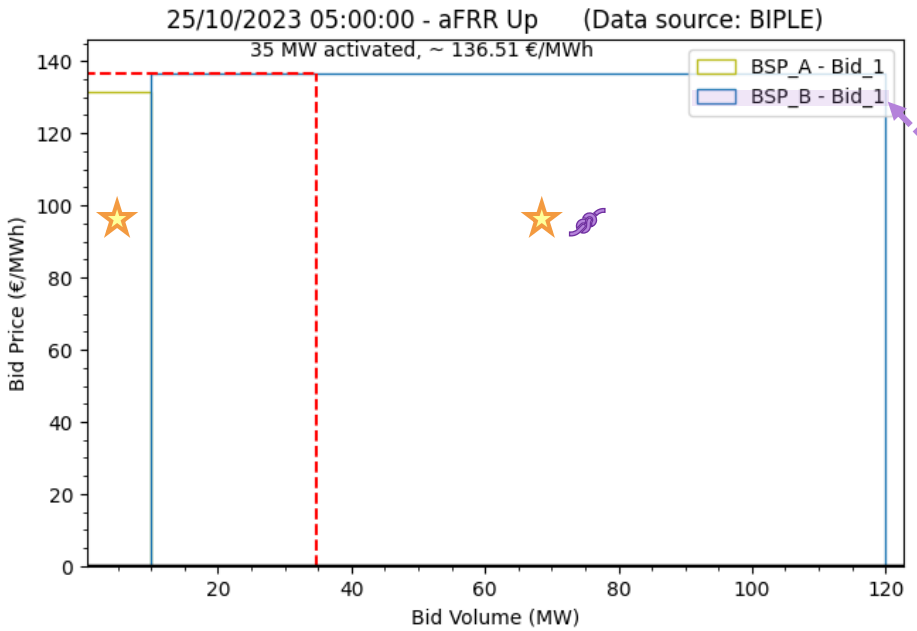
25/10/2023 5:00 ① (2/3) : what was done

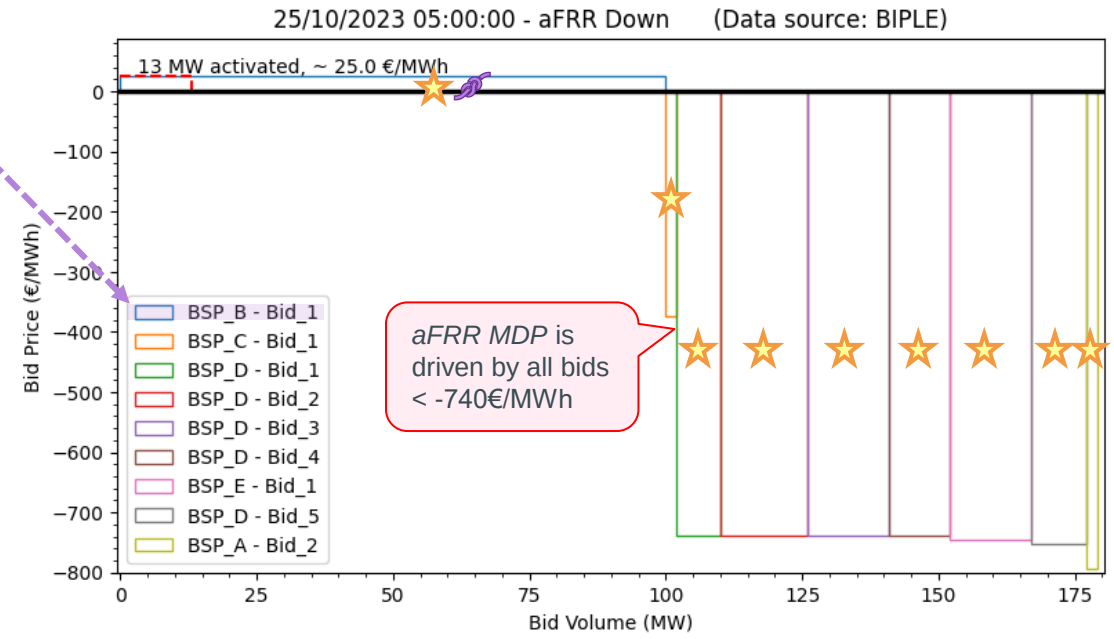
Legend: (full or partially) activated bid; linked bid

1. Plot IP-DA = f(SI)
2. Identify the outliers
3. Deep dive in these QHs

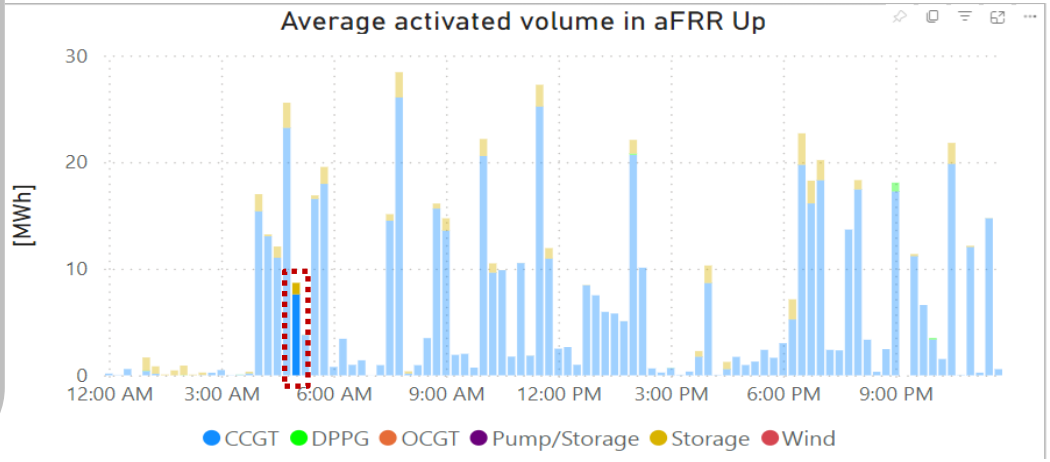
Look into a&mFRR MOLs & activations, system 15' cumulated & system 1' instantaneous values, etc.

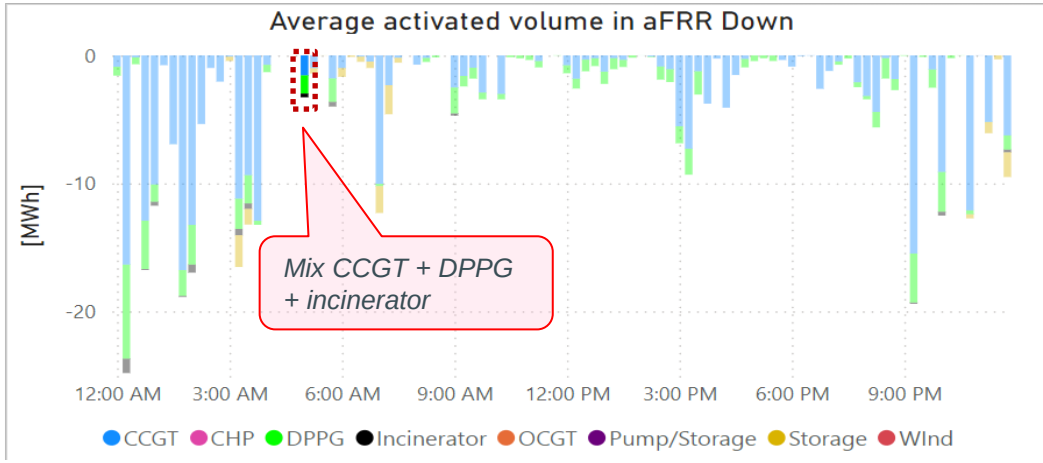
- **THE aFRR MOLS :**





- **THE aFRR ACTIVATIONS :**





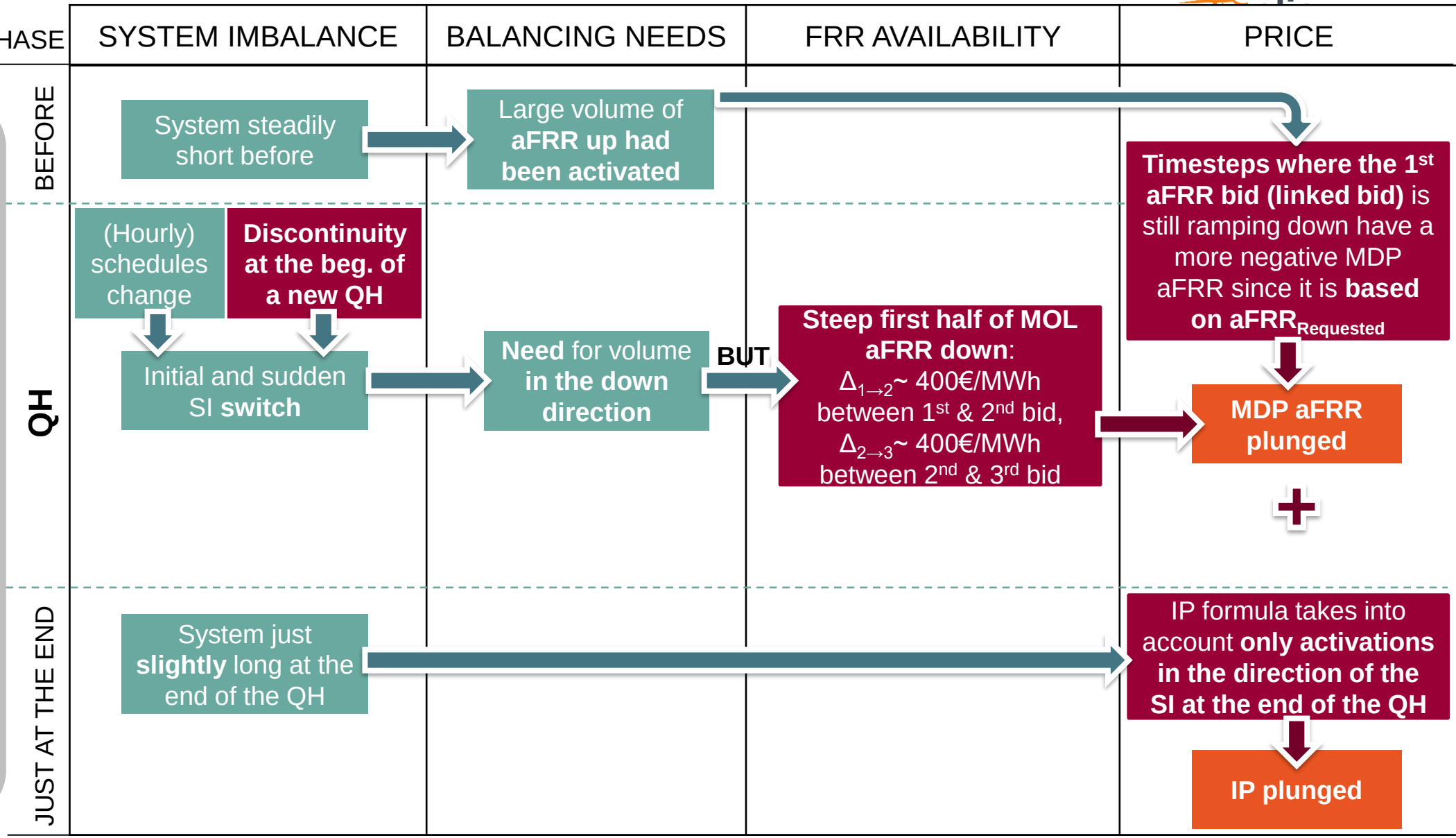
- **The full MOL aFRR down has been selected** by the controller in the mid-1st half of the QH. **All bids have been ramped up**, but none has reached its full volume since aFRR control target lowered afterwards during the QH (ACE improved).
- First bid down is a **linked bid**. It has been used extensively for aFRR up and thus is unavailable to deliver down straightaway.

25/10/2023 5:00 ① (3/3) : high IP due to a domino effect

Example with one QH

1. Plot IP-DA = f(SI)
2. Identify the outliers
3. Deep dive in these QHs

Look into a&mFRR MOLs & activations, system 15' cumulated & system 1' instantaneous values, etc.



Legend:
Observation
Trigger
Consequence

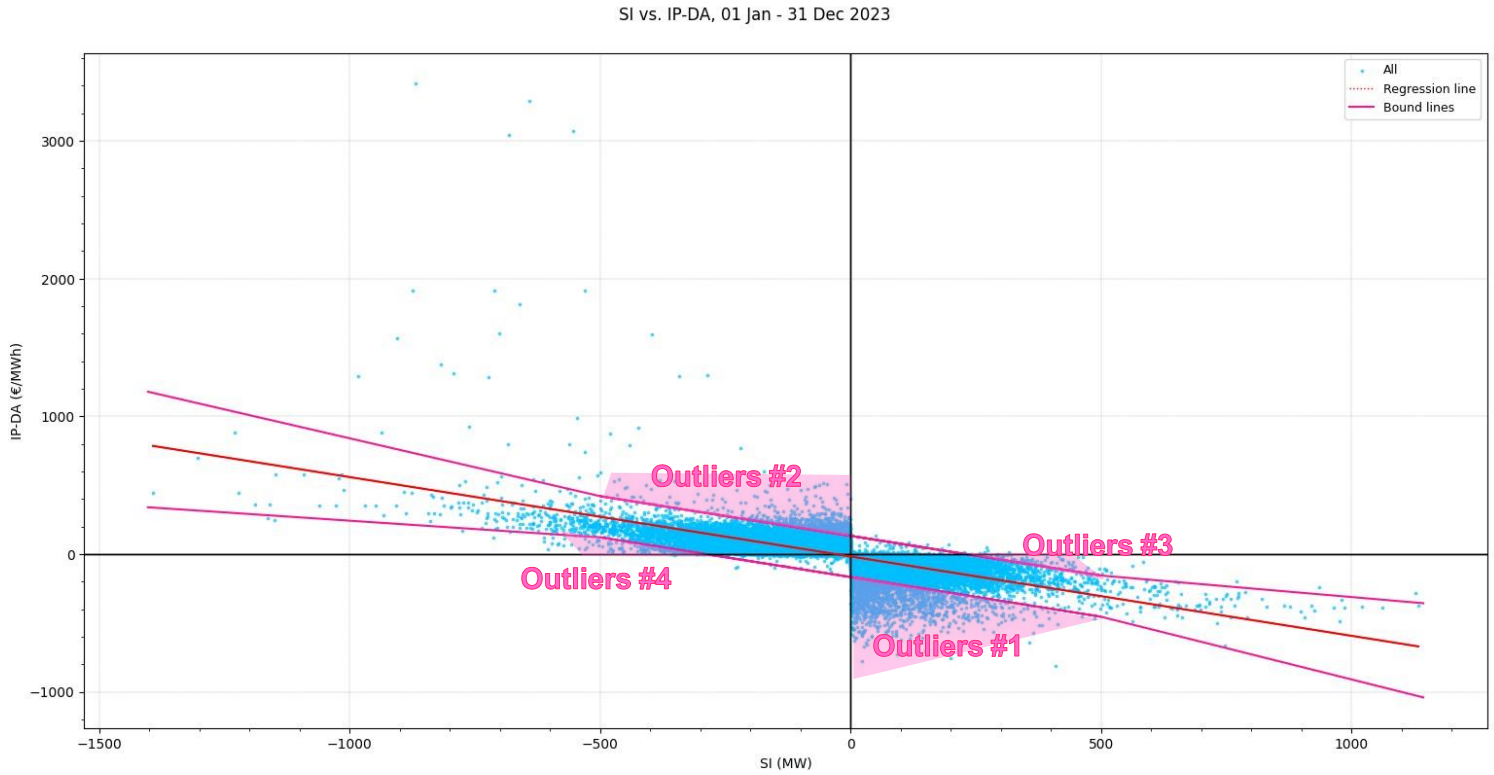
Indicators around the main identified dynamics were built and used to quantify the impact of these dynamics on formation of outliers

1. Plot IP-DA = f(SI)
2. Identify the outliers
3. Deep dive in these QHs
4. Cluster QHs by dynamic

Build indicators of identified mechanics and evaluate the impact

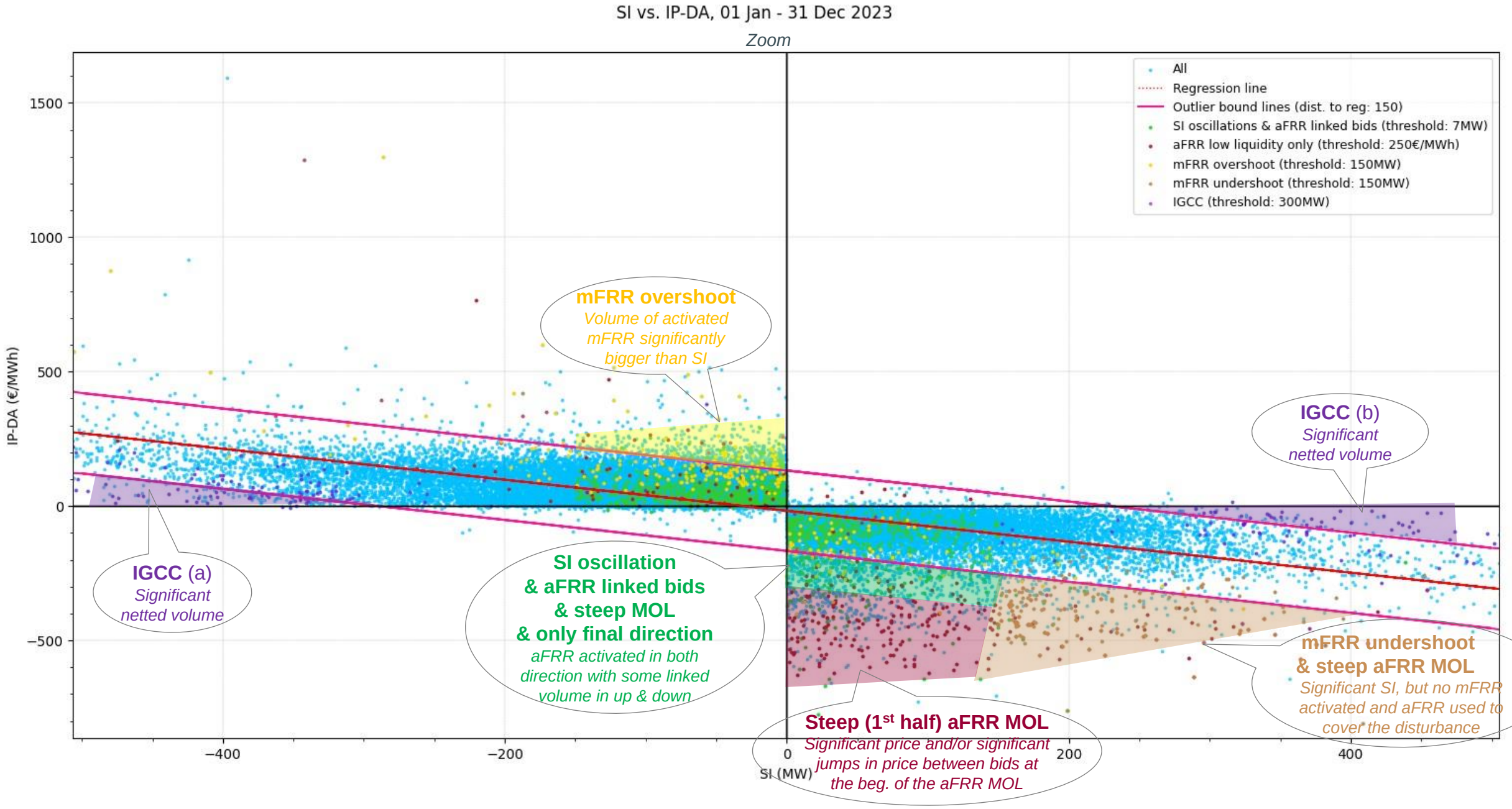
Build indicators

Test their impact against the full data set



How many "outliers" QHs are impacted by these dynamics?

Outliers can be clustered in 5 main groups



For the main dynamics, we identified the measures which could help alleviate their contribution to outlier formation

1. Plot IP-DA = f(SI)
2. Identify the outliers
3. Deep dive in these QHs
4. Cluster QHs by dynamic
5. Map mitigation measures

Identify ways to mitigate the dynamics in from product design, roadmaps and others

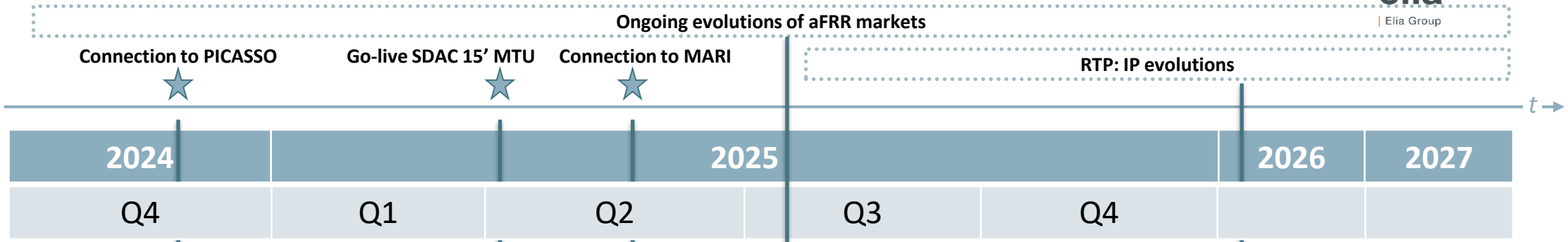
Clusters

- **Steep (1st half) aFRR MOL**
- **SI oscillation**
  & aFRR linked bids
  & steep aFRR MOL
  & only final direction of activation considered in IP
- **mFRR undershoot**
  & steep aFRR MOL
- **mFRR overshoot**
- ~~**IGCC**~~

Netting via **IGCC** is taken into account in the ACE but not in the SI - therefore, the situation is transparent to BRPs and not considered as problematic (from an economic standpoint).

What could be done to mitigate the effect of these?

Coming events will affect the outliers, both positively and negatively



Steep aFRR MOL

- ✓ *If ATC:* more aFRR bids available, at better price
- × *If no ATC/ PICASSO not available*: **pay-as-cleared** instead of pay-as-bid
- Impact on Belgian BSPs' bidding behavior?
- Impact Belgian market evolution (increase in battery participation, new players, etc.) on the LMOL?
- ✓ Aim to get rid of **the volatility and extreme prices brought by the current aFRR component** in the price signal

SI oscillation & aFRR linked bids & steep aFRR MOL & only final direction of activation considered in IP

- ✓ **No more linked bids effect** with:
  - **aFRR satisfied demand** instead of aFRR Requested
  - **Cross-Border MP**
- ✓ **All optim. cycles** taken into account.
- ✓ Schedules, today mostly hourly, would follow **DA market** MTU change from **1hr to 15'**
- ✓ Aim to **stabilize the price signal**

mFRR overshoot and mFRR undershoot & steep aFRR MOL

- × mFRR bids shall be done earlier (12' before QH)
- ✓ Aim to provide **better accuracy of the forecast**, hence it helps the operators to take better activation decision

Abbreviations: ATC = Available Transfer Capacity

What's next?

- **Close monitoring of the effect of the impactful events on Imbalance Price**
  - ✓ The Evaluation Plan of the new formula to be delivered one year after connection (end 2025).

- **Mitigating the outliers is a driver for improving the Imbalance Price**
  - ✓ Evolutions of the Imbalance Price shall aim a better representativity of the average system conditions over the QH

Real-Time Price – Evaluation parallel run

Elodie Ciciriello

Publication of current imbalance price forecast

What ? Publication of an imbalance price **forecast** with a confidence indicator

- 1 minute before the quarter-hour
- Confidence indicator indicates how sure Elia is about the forecast

When ? September 18 – November 22, 2024

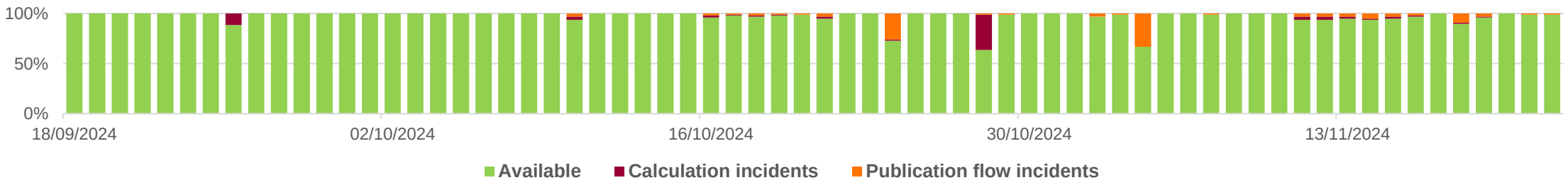
How ? Information publicly accessible via API

Feedback form

https://forms.office.com/e/k3qqFQDnSz

Publication availability

- The availability of the publication was tested by calling traXes each minute. Each quarter-hour with at least one minute where the forecast was not calculated, or could not be retrieved completely and on time, is considered as an incident.
- Elia detected 180/6156 quarter-hours with an incident.
- No delays detected in the publication.



Global availability
98,7%

Nb of days of full availability
45/65

Nb of days of availability <90%
5/65

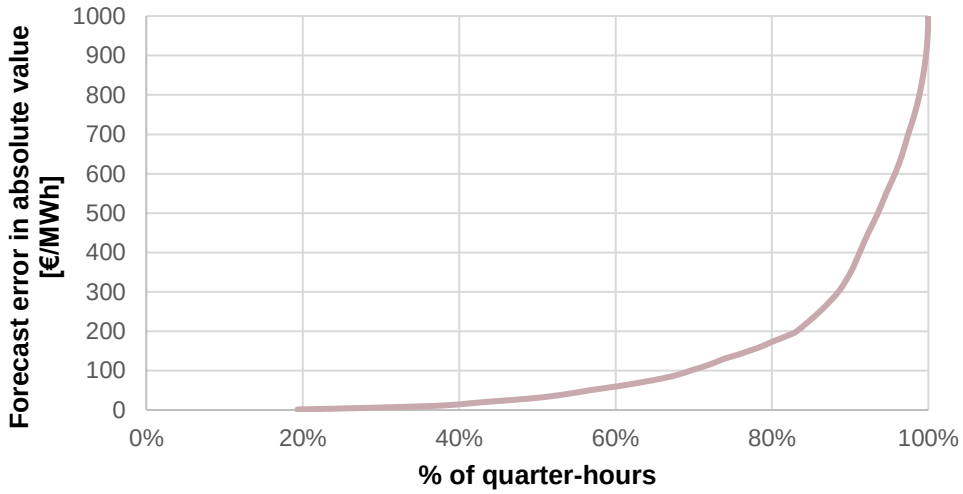
Quality of the forecast

Trial period (18/09/24– 22/11/24)

Indicators used to assess the quality

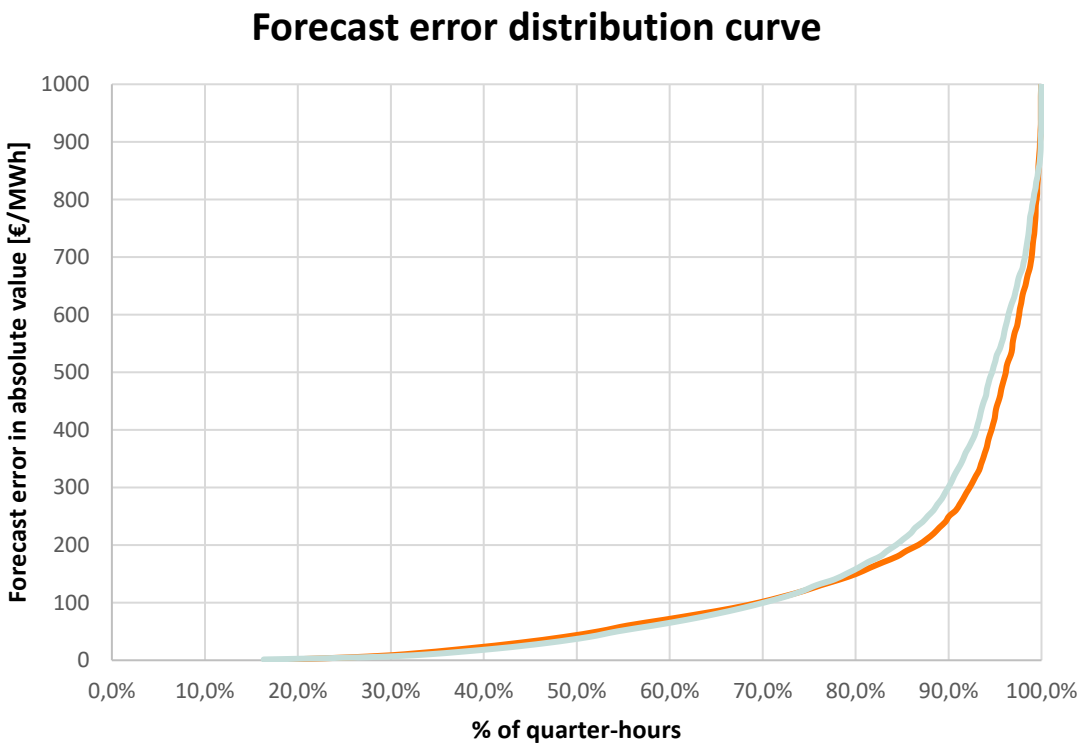
To assess the quality of our forecast, we use the following indicators:

- **Forecast error distribution curve:** gives the % of quarter-hours for which the forecast error, in absolute value, is under x€/MWh
- **% perfect forecast**: % of quarter-hours for which error < 1€/MWh
- **% error < 50**: % of quarter-hours for which error < 50€/MWh
- **80% error**: 80% of quarter-hours under that error
- **99% error**: 99% of quarter-hours under that error



General forecast quality

- Similar quality than the first 1-minute imbalance price publication.
- Similar quality than the historical analysis presented in September.
- Perfect forecast 19% of the time.

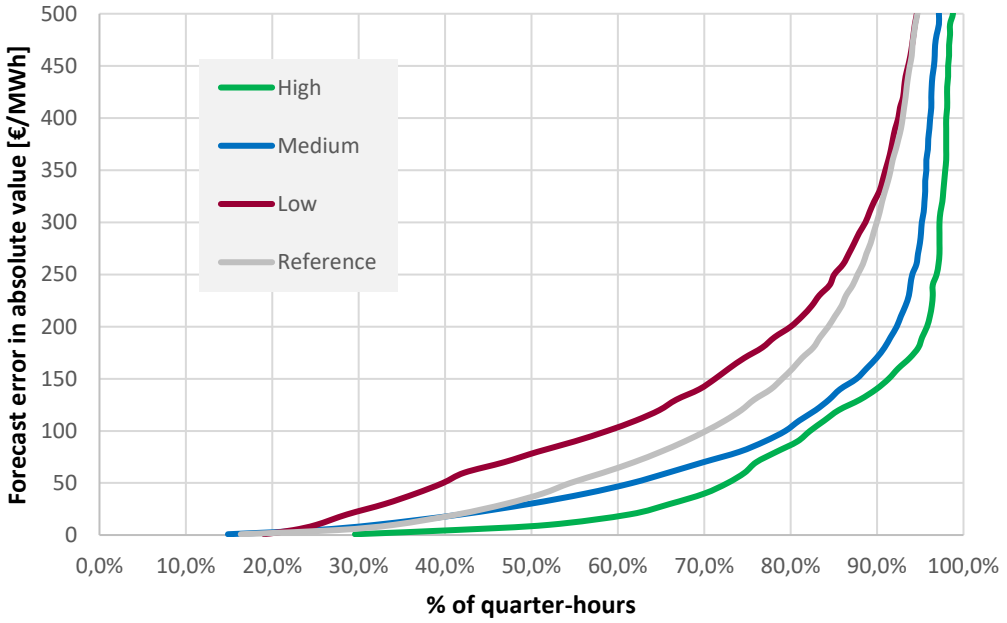


	Forecast Published at qh-1'	1min publication *Published at qh+2'*
Perfect forecast	19%	16%
Error < 50€/MWh	52%	54%
Error 80% :	150€/MWh	160€/MWh
Error 99%	710€/MWh	790€/MWh

Quality of the forecast – Confidence indicator (trial period)

- The confidence indicator behaves as expected: forecasts with a high and medium confidence indicator are more qualitative.
- More occurrences of high and medium forecasts than foreseen

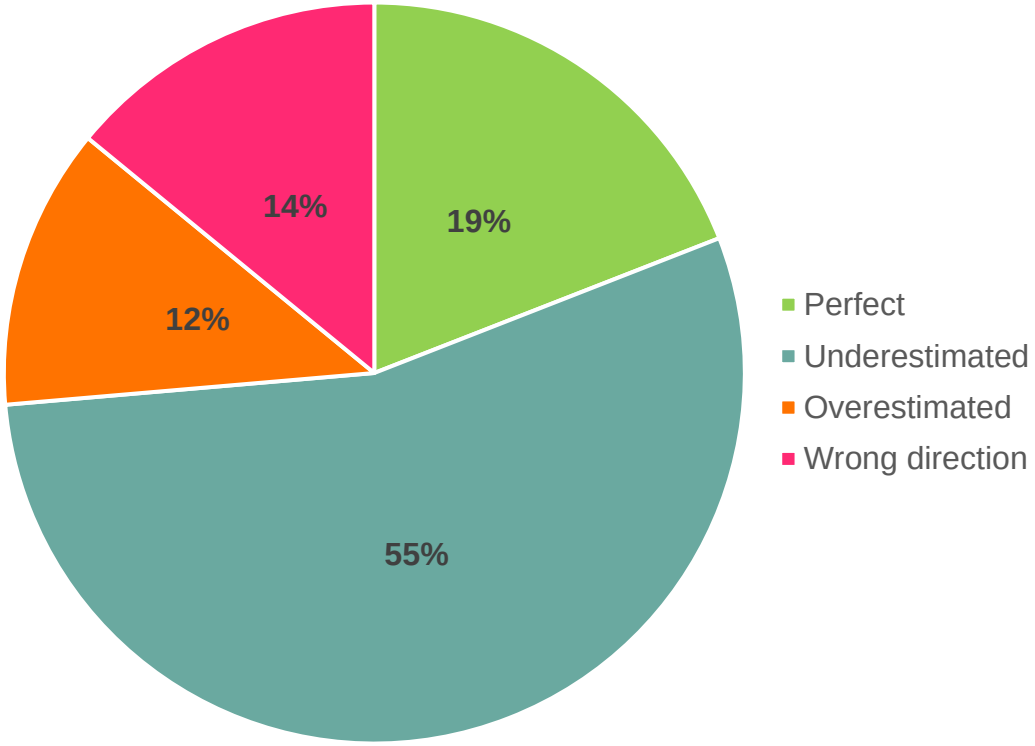
Forecast error distribution curve



	High *14% of qhs*	Medium *37% of qhs*	Low *49% of qhs*
Perfect forecast	30%	15%	19%
Error < 50€/MWh	73%	62%	40%
Error 80%	90€/MWh	110€/MWh	200€/MWh
Error 99%	590€/MWh	710€/MWh	720€/MWh

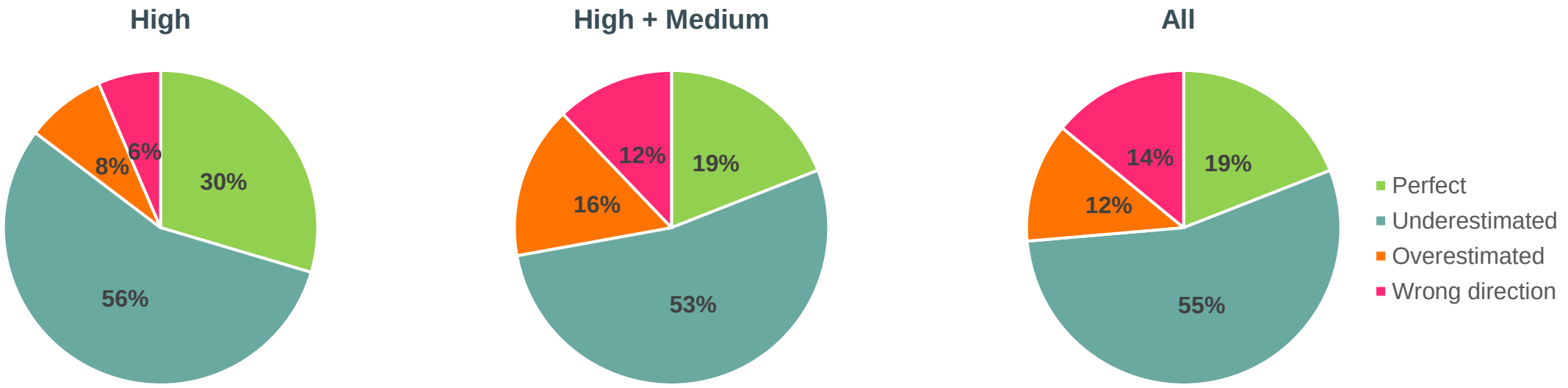
Direction of the forecast error

- We can forecast the direction of the imbalance price" (MIP/MDP) 86% of the time.
- 19% of the quarter-hours have a perfect forecast
- We tend to underestimate the imbalance price (55% of the quarter-hours) → limited triggers for unnecessary reactions.
- No "risk" to use the publication 74% (perfect or underestimated forecast)

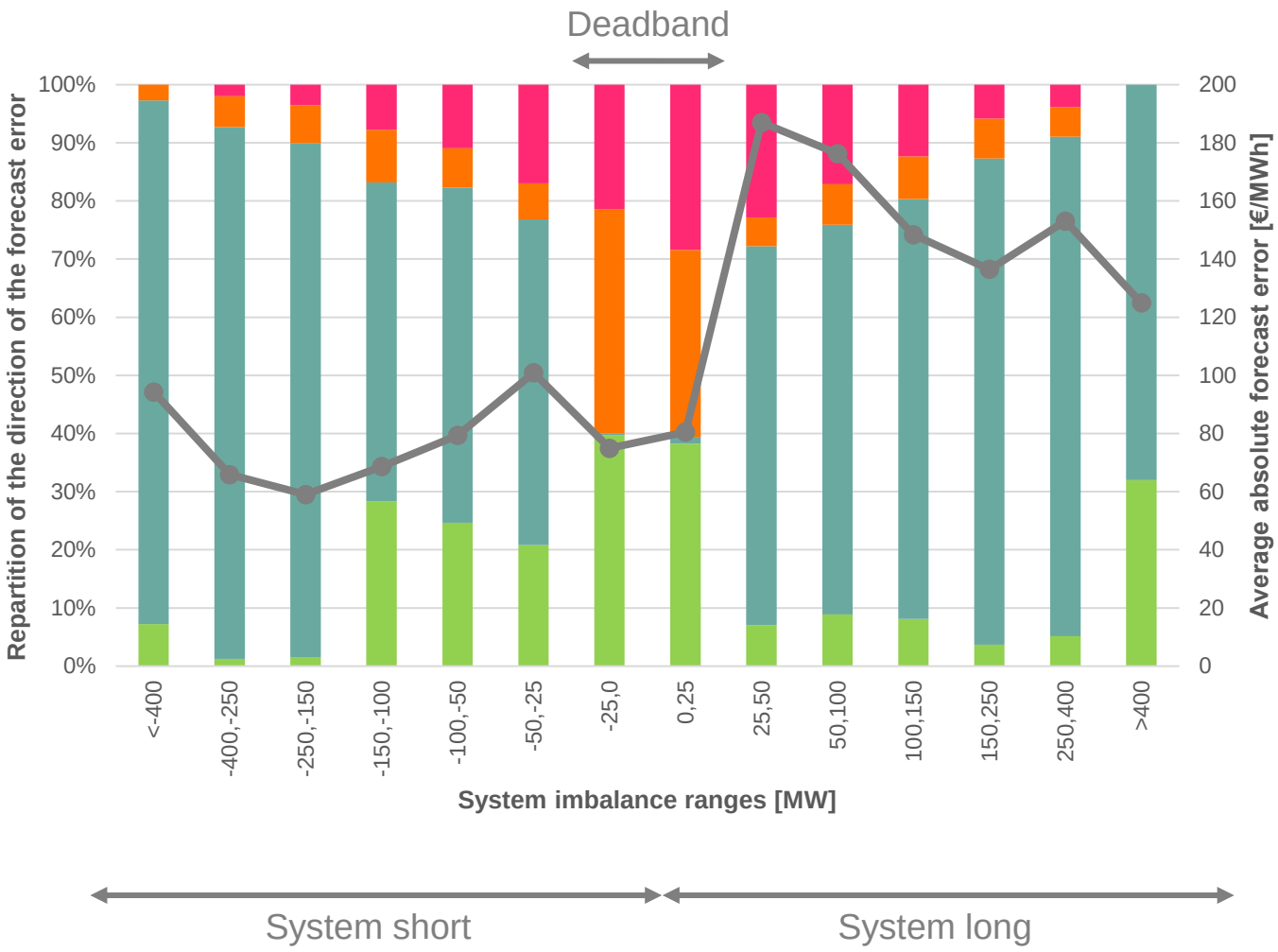


Direction of the forecast error (confidence indicator)

- **High forecasts**: no risk to use the publication 86% of the time
- **Medium and high forecasts**: no risk to use the publication 72% of the time
- **All forecasts**: no risk to use the publication 74% of the time



Direction of the forecast error and average error by system imbalance



- Forecast quality is on average **better when the system is short** *(more liquidity in the upwards direction).*
- **Better forecast quality in the deadband** with an important difference when the system is long.
- Slight **improvement of the forecast quality for high system imbalances**, especially when the system is long.

Perfect forecasts occur mainly :

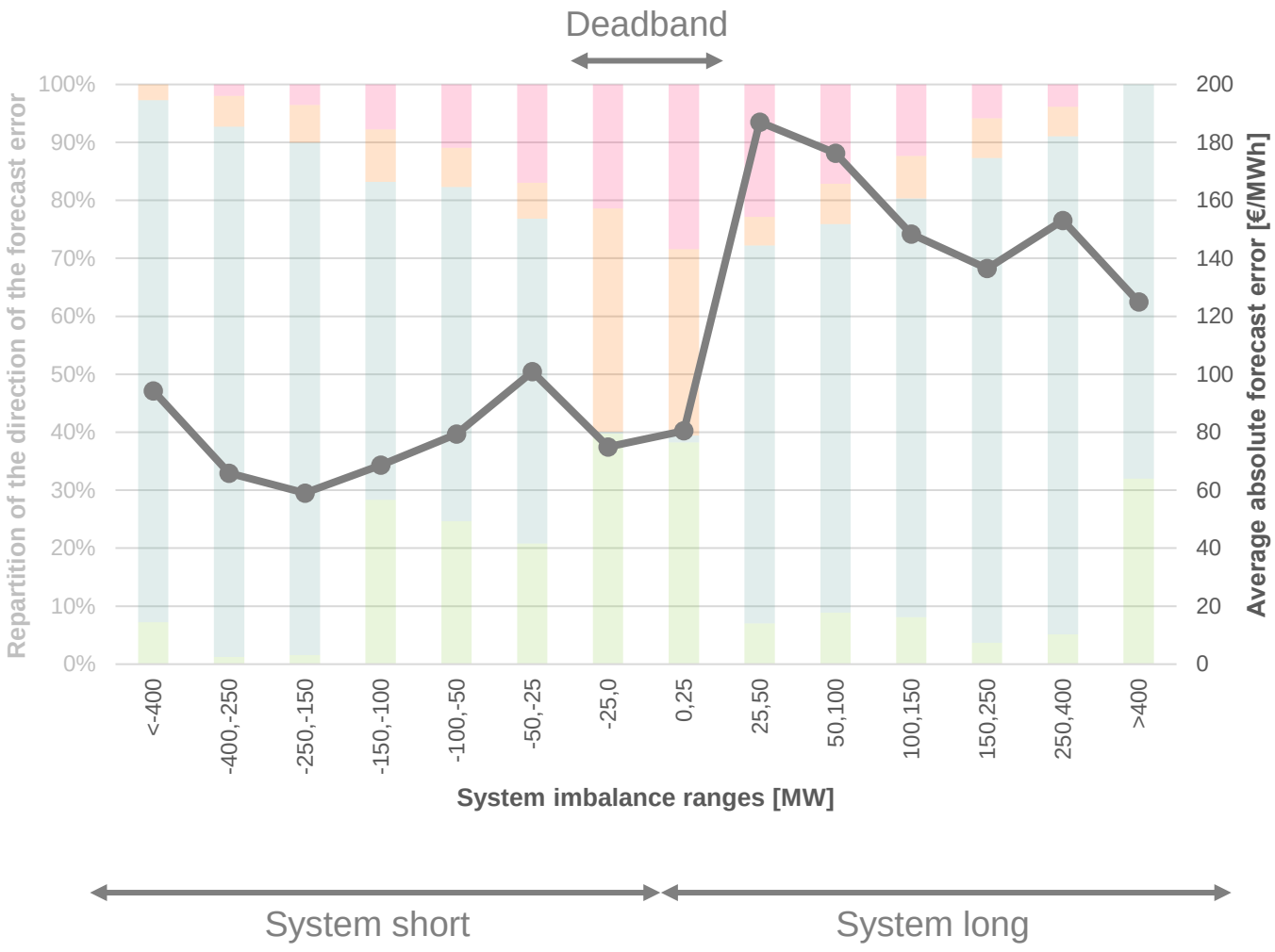
- in the deadband (41%)
- when the mFRR component is setting the price (32% - mostly upwards)
- when the first aFRR Energy Bid is setting the price (19%)

35% of underestimations due to a **system imbalance wrongly forecasted in the deadband**.

Most of the **overestimations occur in the deadband.** (56%)

Wrong directions occur more around the balance (wrong sign of SI forecast more likely)

Direction of the forecast error and average error by system imbalance



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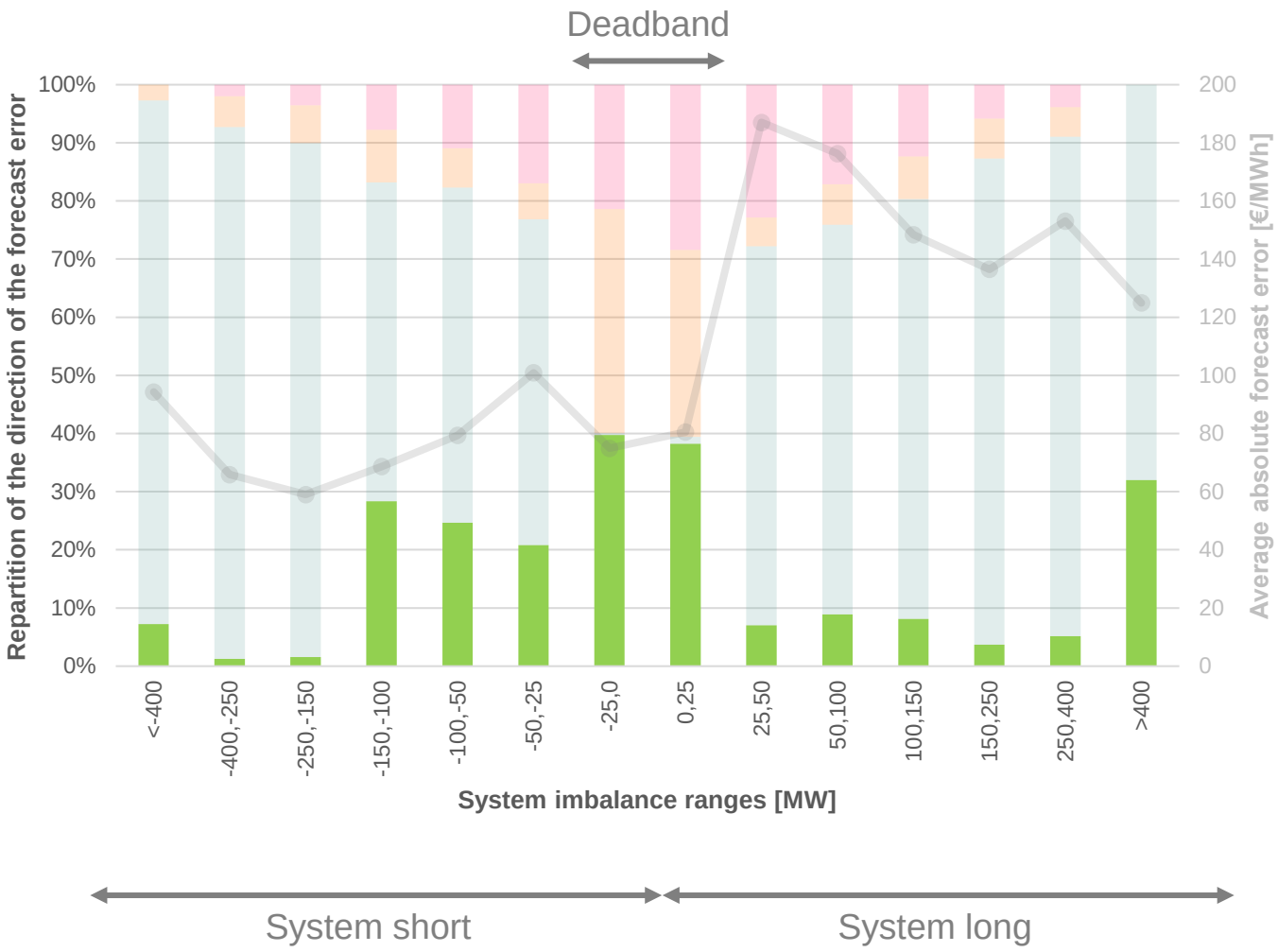

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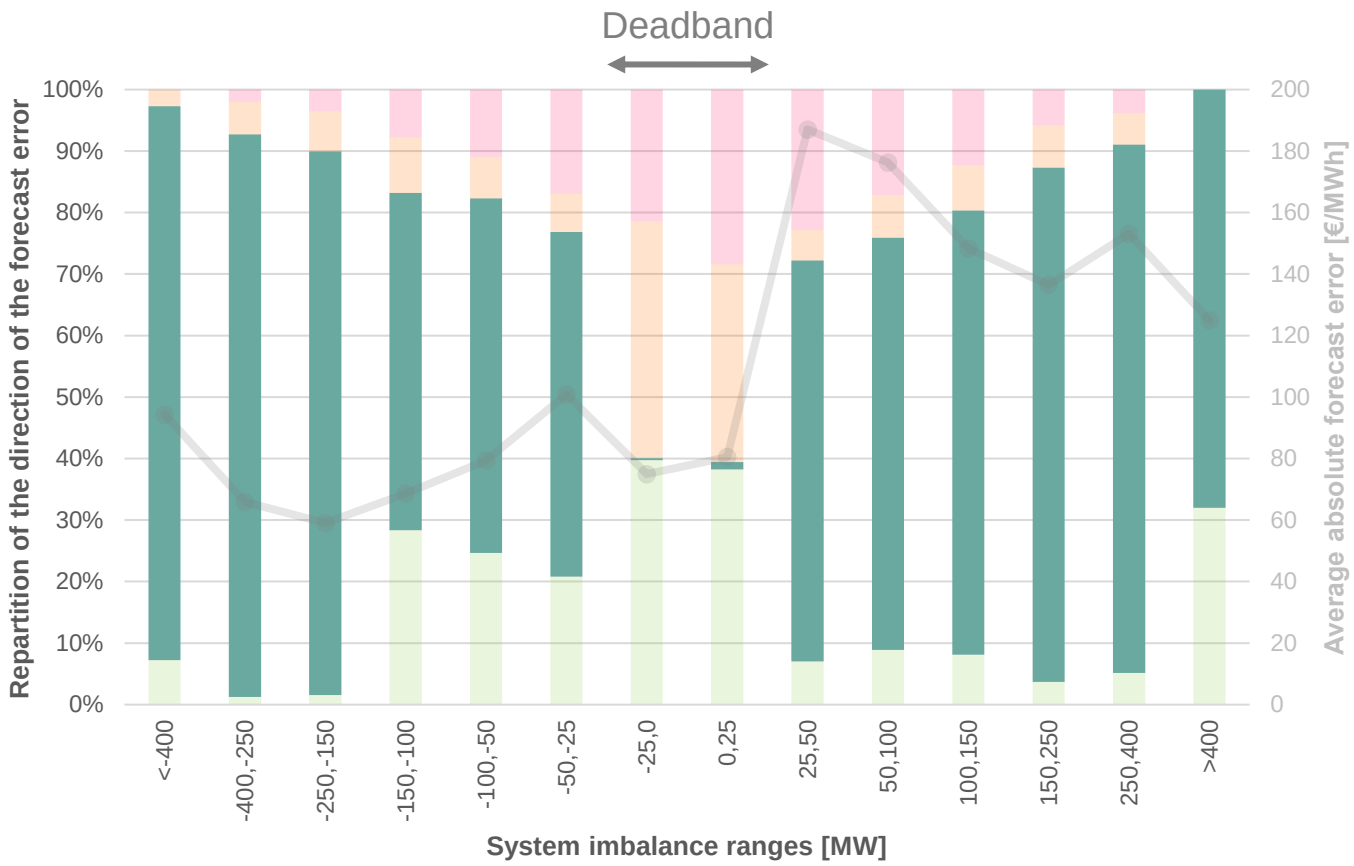

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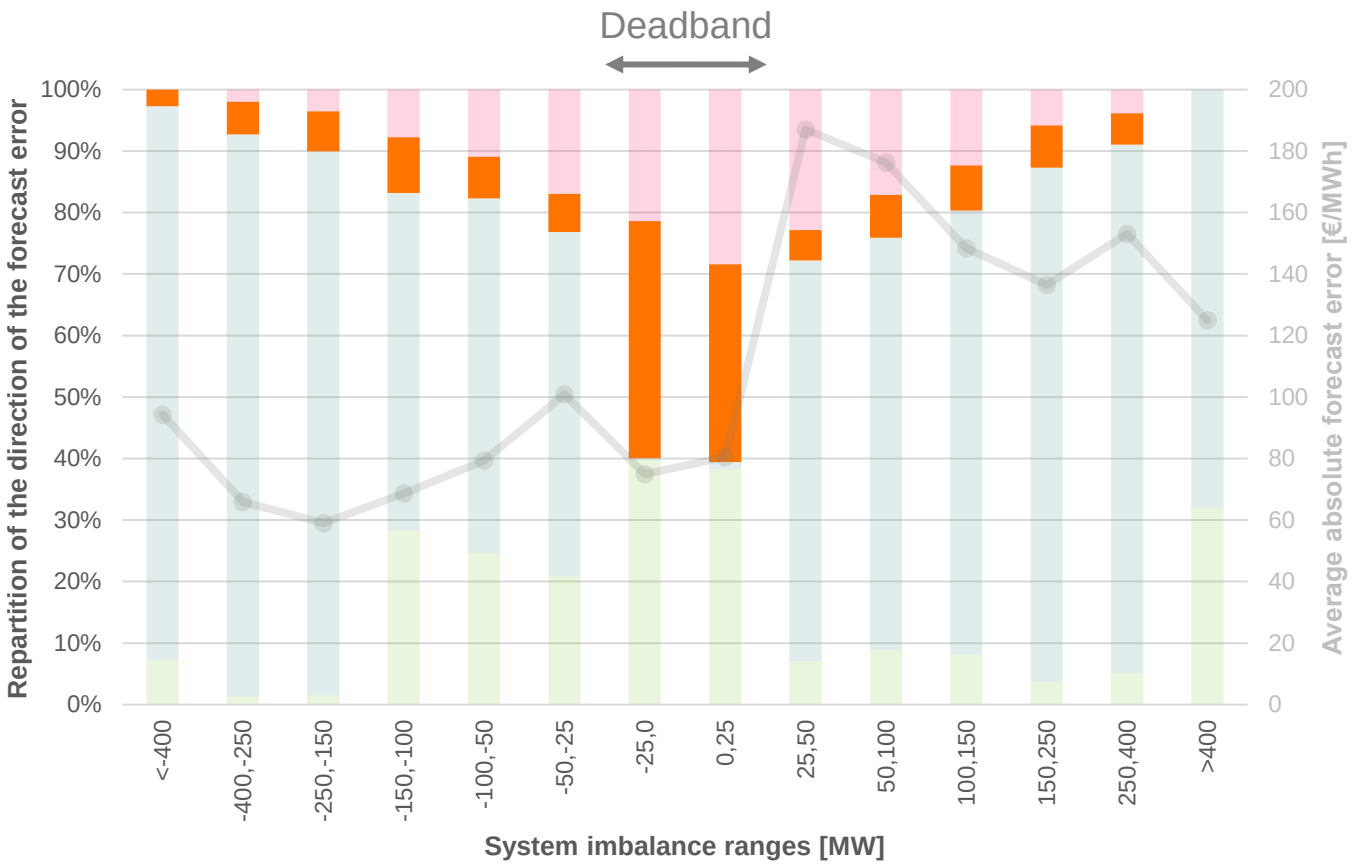

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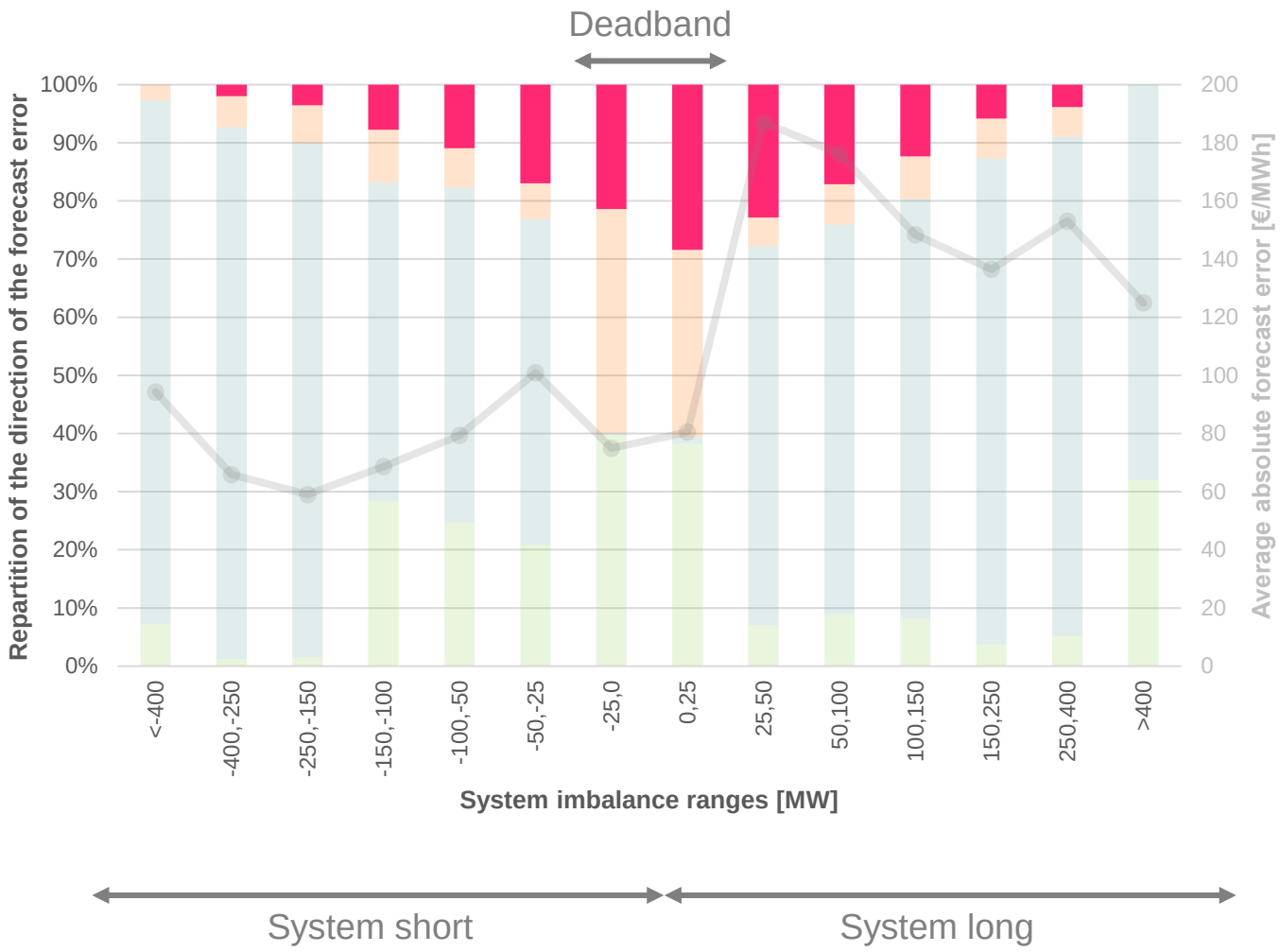

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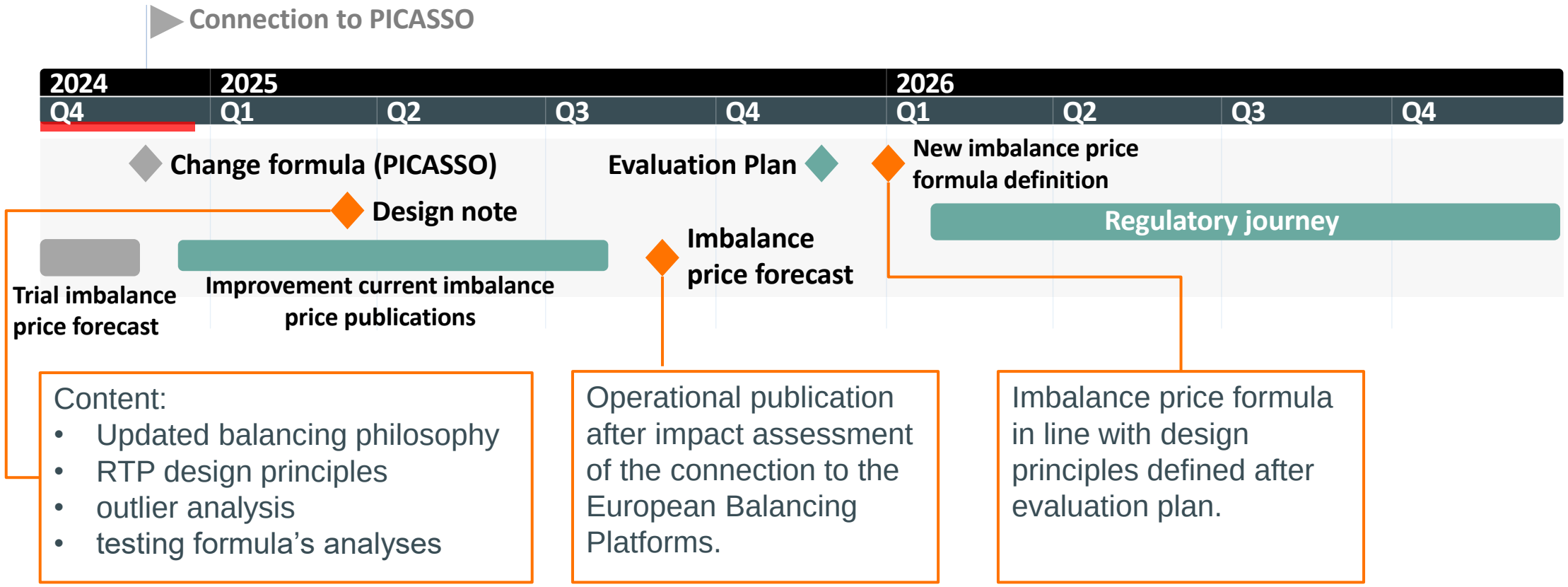
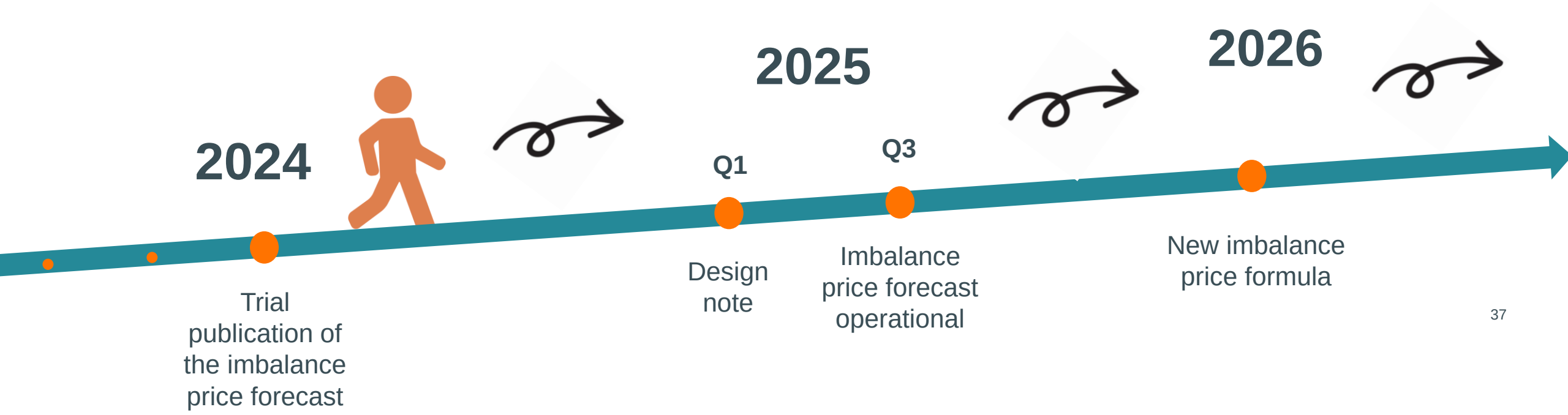
Next steps ?

Imbalance price roadmap

Imbalance price roadmap



Imbalance price roadmap



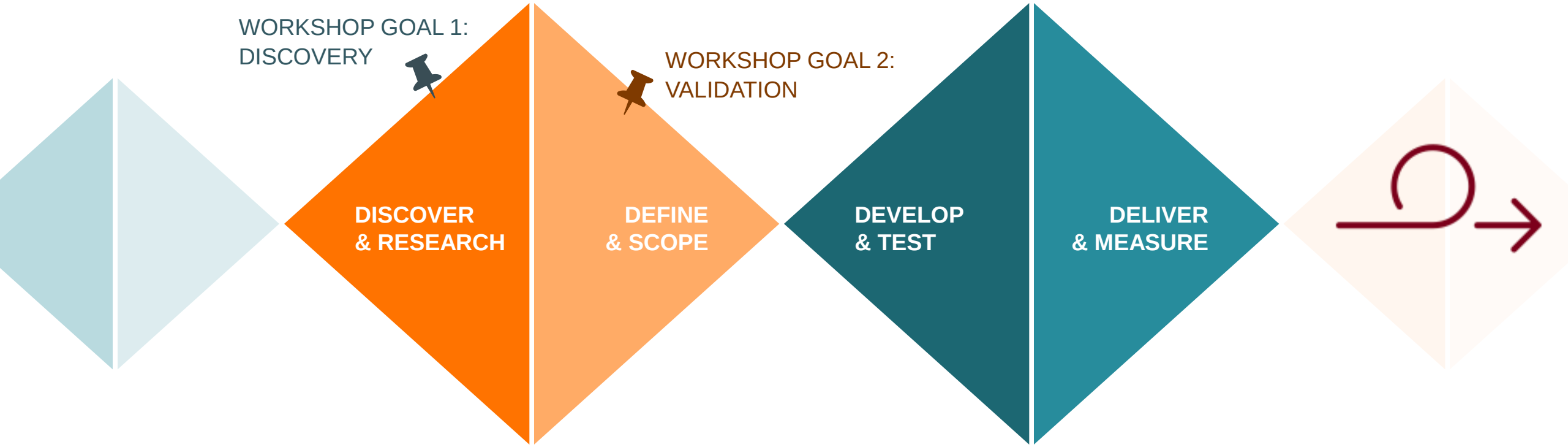
https://forms.office.com/e/k3qqFQDnSz

Thank you.

BRP-BSP – feedback workshops

Quentin Lambert

Recap: The user centered approach to product design

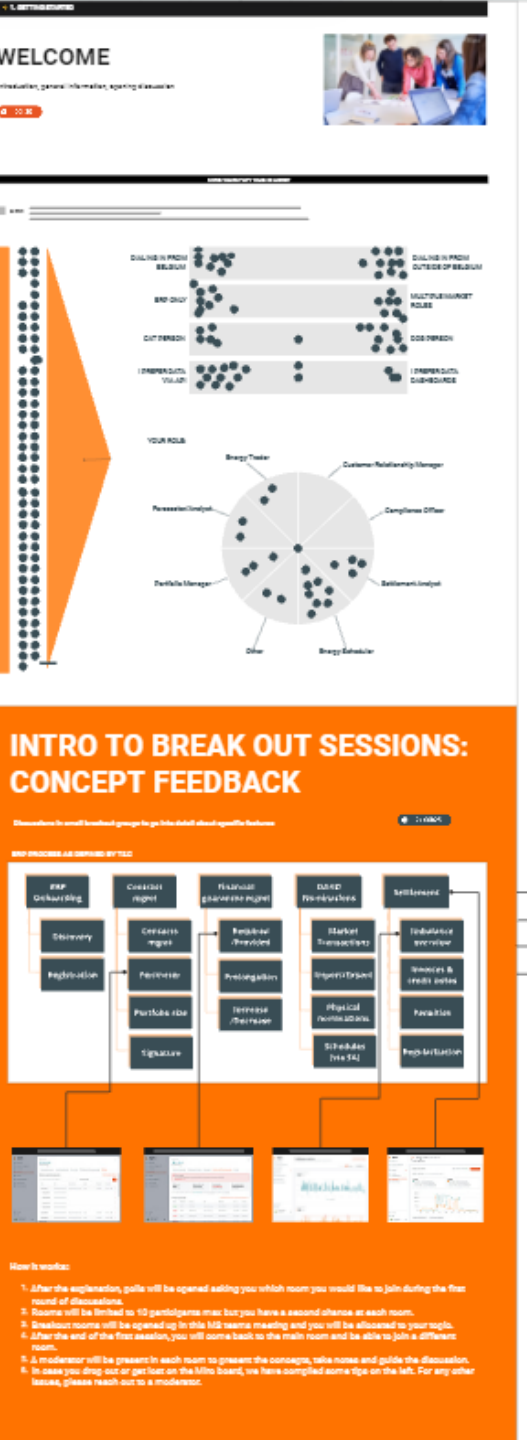


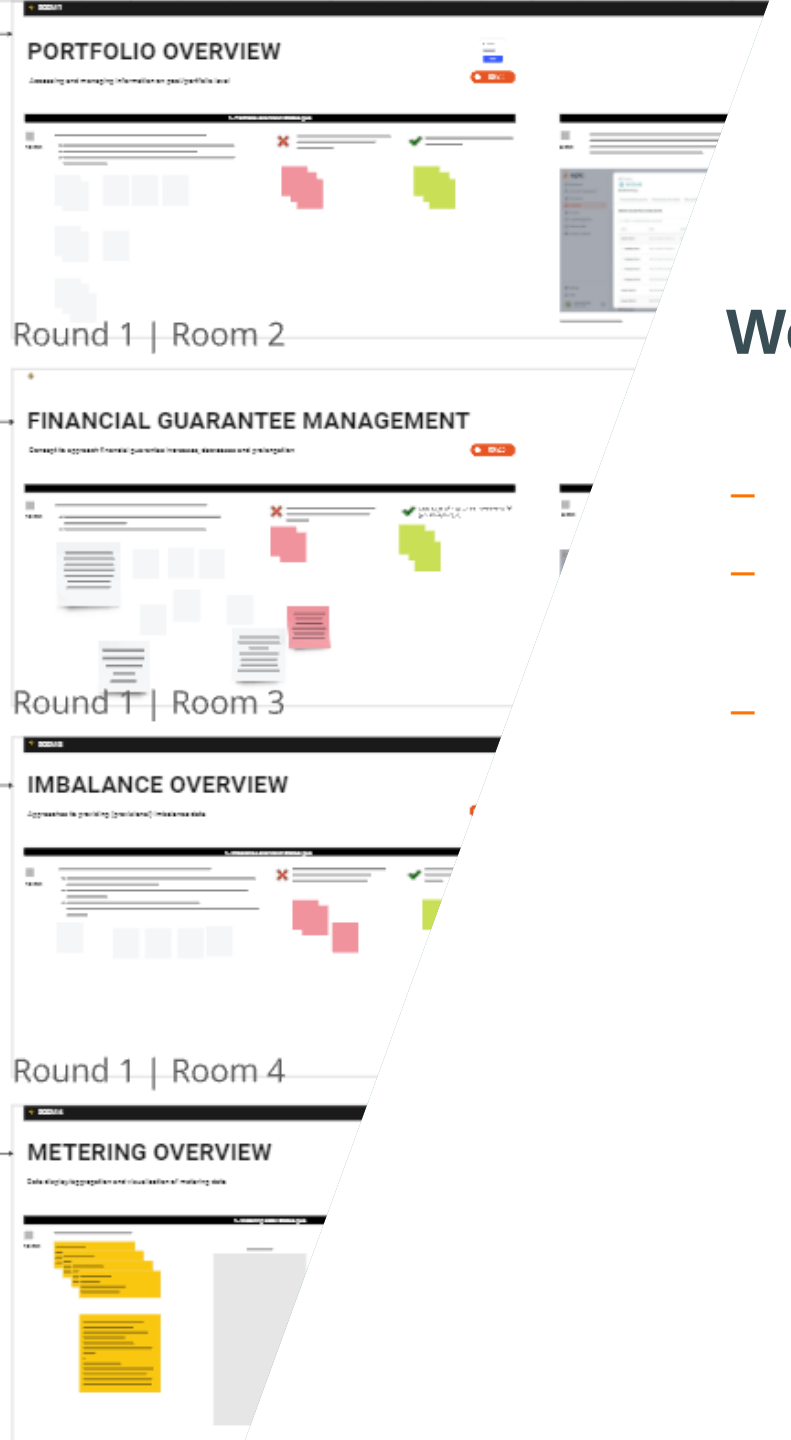
Design thinking is
Collaboration

To make sure we
build the right thing

To make sure we
build the thing right

And
Iterate





Workshop approach

- 2h-workshop each for BRP & BSP
- Remote setting, collaboration through virtual whiteboard
- Agenda:
  - Welcome
  - Short checkin & whiteboarding intro
  - Discussions of digitalization concepts in smaller groups
  - Closing discussion on overall concept

Feedback

"A lot of nice upcoming features that will surely be used“

Participant BRP workshop

"Very interactive and informative“

Participant BSP workshop

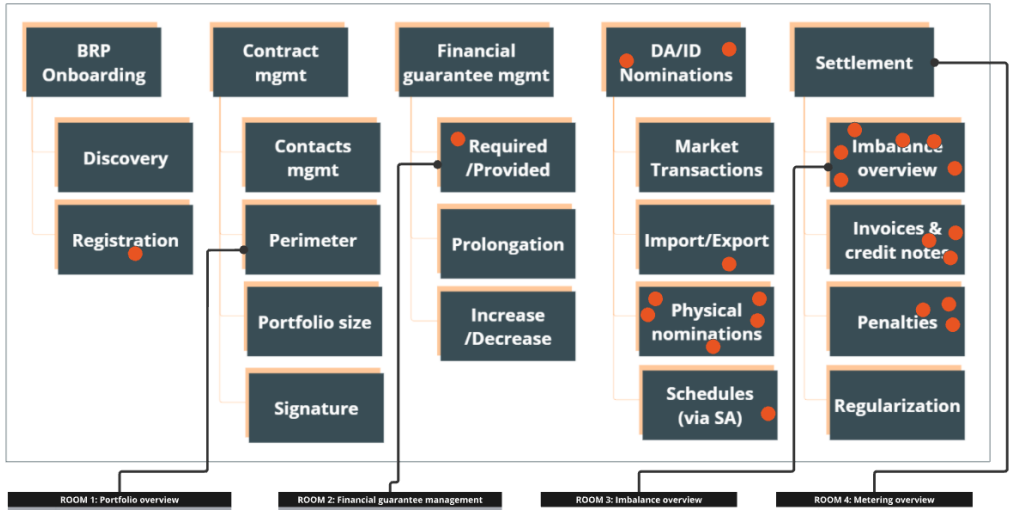
“The WS could be seen as a success, and this mostly by an innovative meeting approach (clearly a + for Elia reputation) and secondly by giving our BRPs a common room to express their interests (being less formal than WG and consultations).”

Elia KAM

31/10/2024

BRP digitalization workshop: Concept testing & feature prioritization

- Overall **positive** reception
- Concepts were prioritized (see right), commented & additional ideas collected
- Clear **mandate to work on easy information access for BRP**, allowing to cross check information with Elia's data. Preferences indicated use of dashboards and APIs for different use cases.
- Hot topics during discussion included **provisional imbalance data, information on financial guarantee** (particularly decreases) & **nominations**. Portfolio overview was seen as a basis to build on and connect to services such as metering.

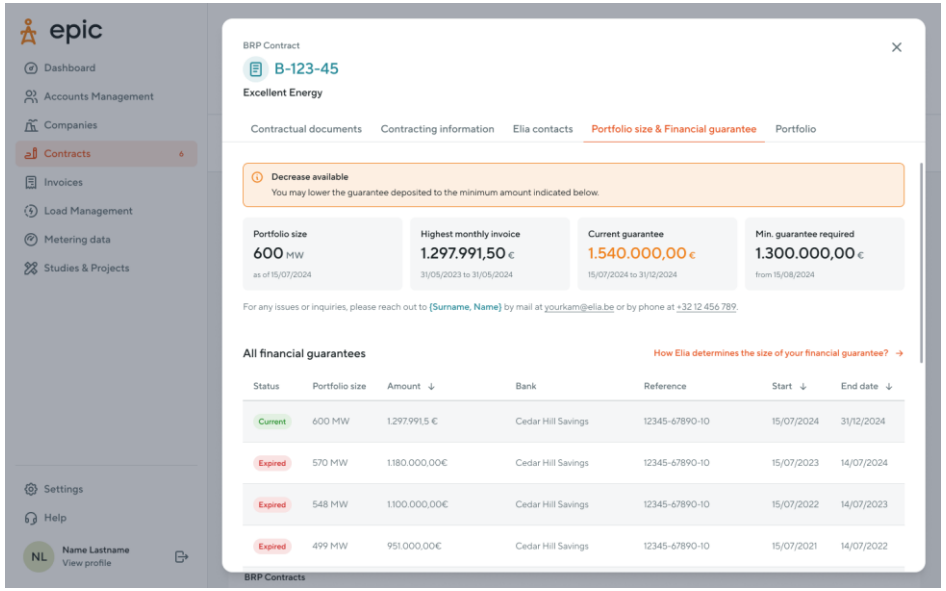


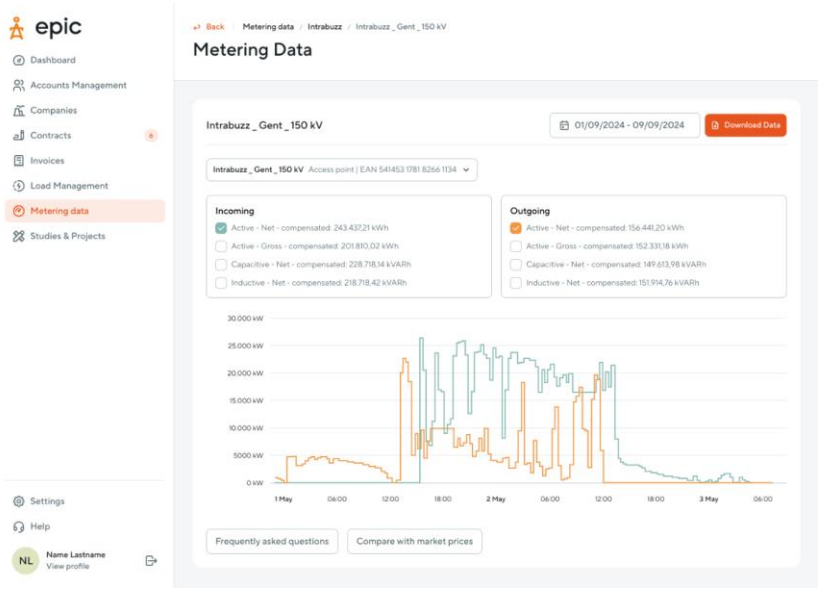
Room 1: Portfolio Overview	8%
Room 2: Financial guarantee management	25%
Room 3: Imbalance overview	42%
Room 4: Metering data overview	25%

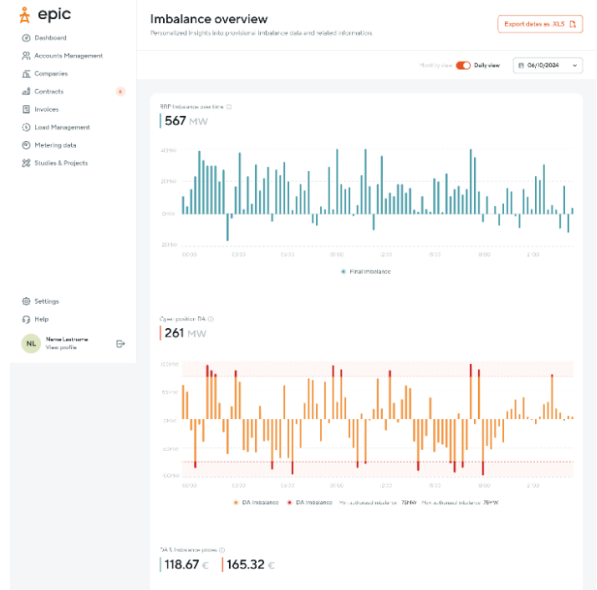
Attendance report: 30 participants registered, 24 logged in.
16 BRP registered, 14 participated

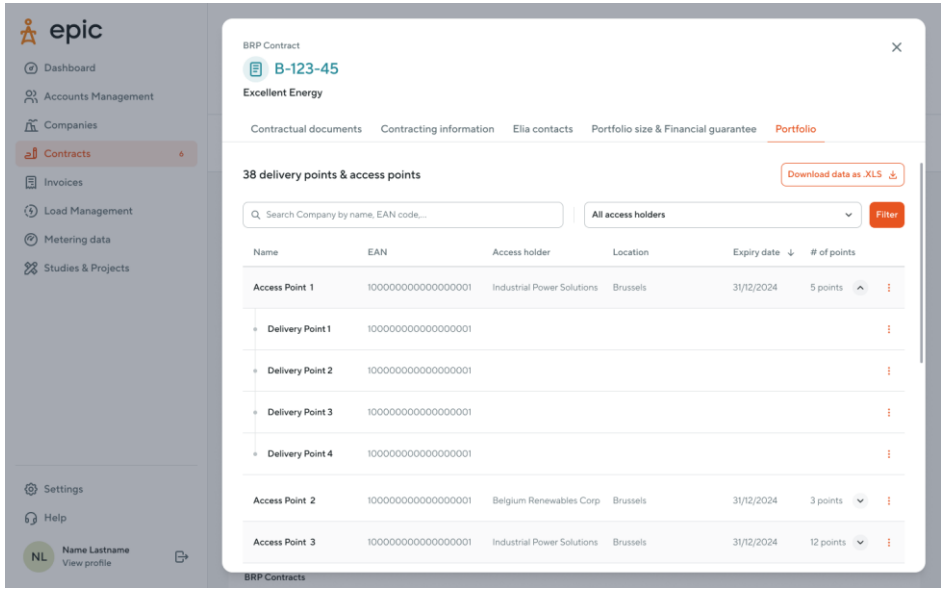
Early design ideas as presented during the workshops

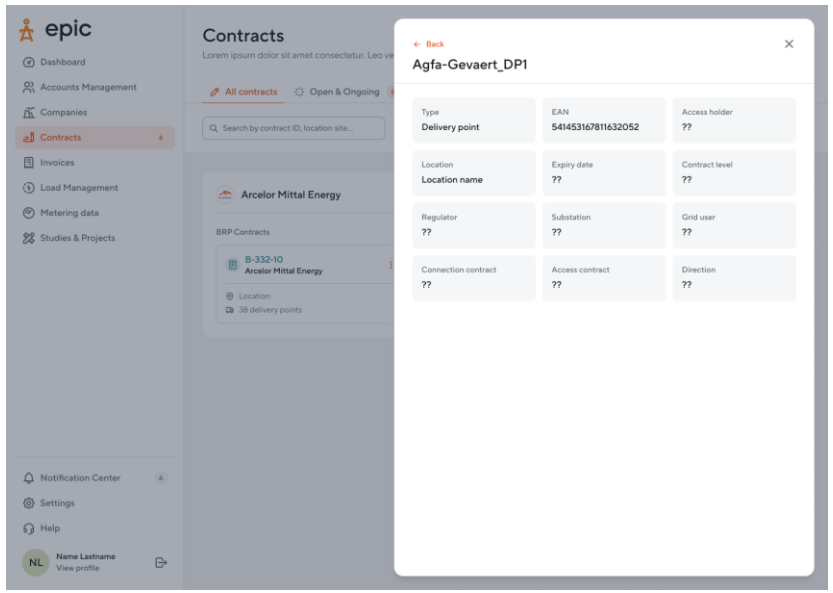
Final implementation may differ from what is depicted here







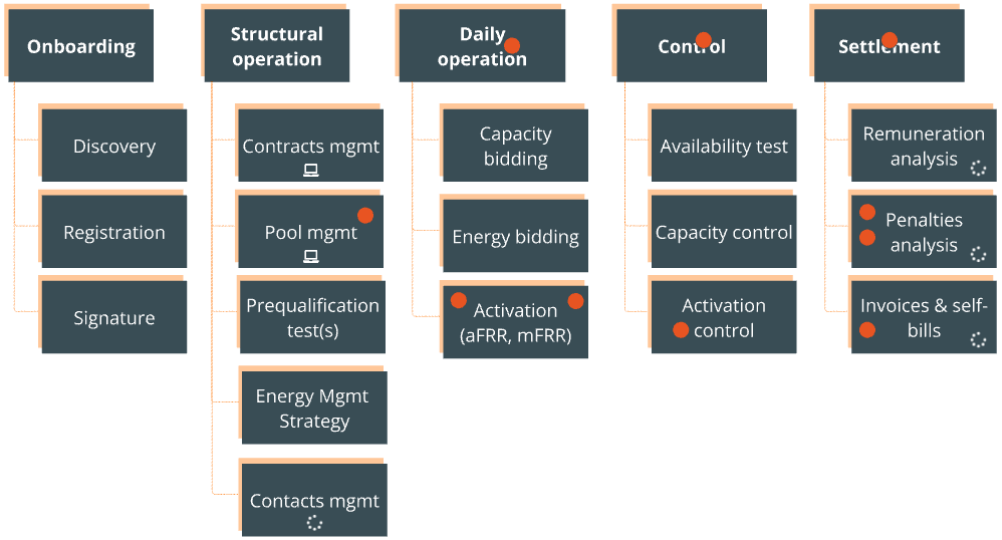




07/11/2024

BSP digitalization workshop: Concept testing & discovery

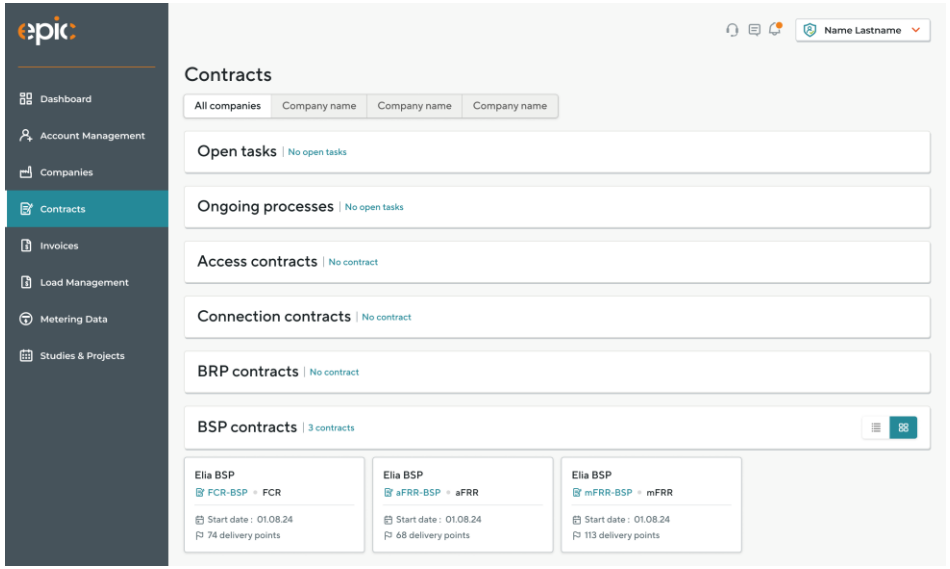
- Overall **positive** feedback to concepts presented
- Concepts have been validated, comments & additional feature ideas collected
- Clients expressed a strong interest in having a **centralized source of information on documents/ contracts as well as for invoicing/settlement.** Further research into these opportunities will be conducted.
- Some usability issues with invoicing were collected, as well as feedback on digital platforms currently used by BSP.

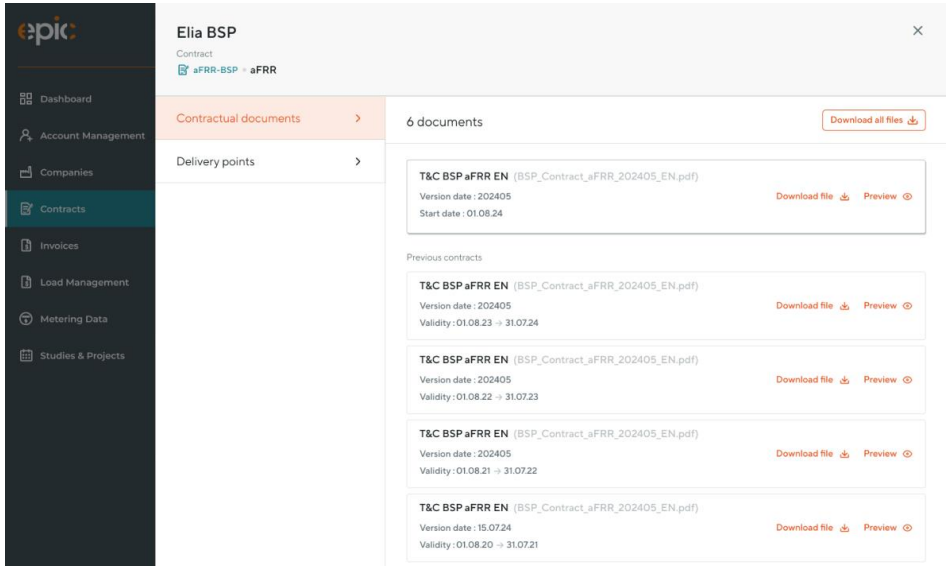


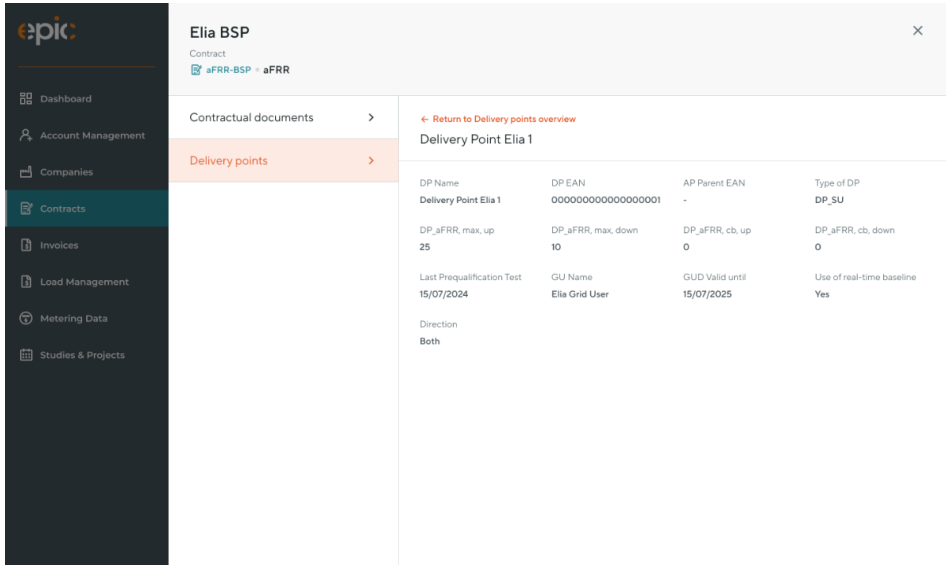
Attendance report: 13 participants registered, 9 logged in.
7 BSP registered, 5 participated

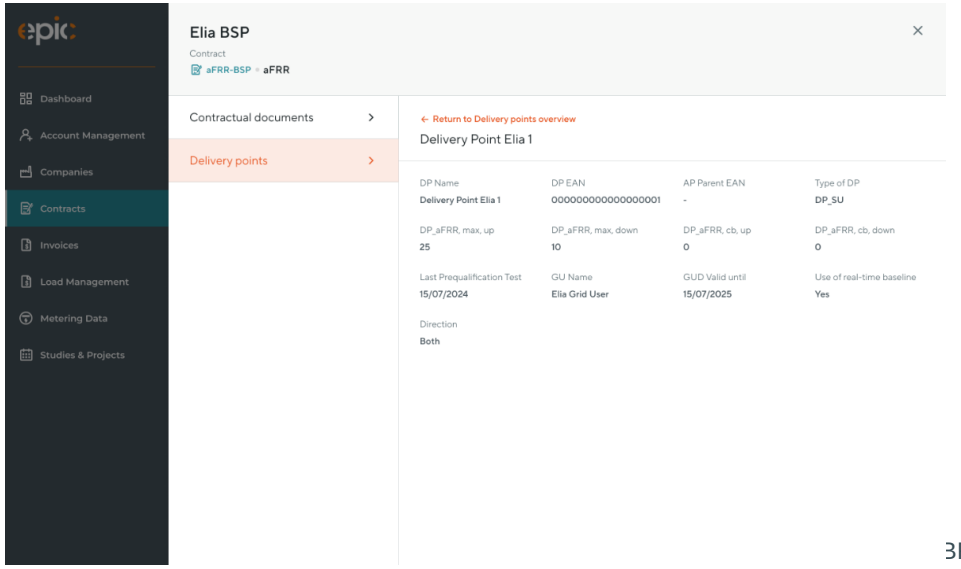
Early design ideas as presented during the workshops

Final implementation may differ from what is depicted here









Imbalance overview

Financial Guarantee management

Metering overview

Registration management

Perimeter overview

BRP PRIO

BSP PRIO

Contract overview

Contact management

Invoice overview

Settlement UI

Portfolio management

Metering Overview

Registration management

You haven‘t been able to give feedback during the workshops?

We are still open for feedback!

Please contact your KAM to signal your interest and we will schedule an individual session with you.

Incentive ‘24 – BRP Settlement – public consultation report & final design

Simon Serrarens

Recap of the CREG incentive Faster Settlement

Part 1 – Monitoring & analysis of the problems/improvement opportunities of the provisional allocations generated by Atrias – Q1 ‘24

Part 2 – Analysis of the historical risks as a consequence of too high or too low financial guarantees – Q1 ’24

Part 3 – Analysis of the possibility to invoice BRPs faster, with or without improvement of Atrias allocations and potential positive impact on the financial guarantee – Q2 ’24

Part 3 bis – Launch public consultation of at least 3 weeks, before 01/09/’24

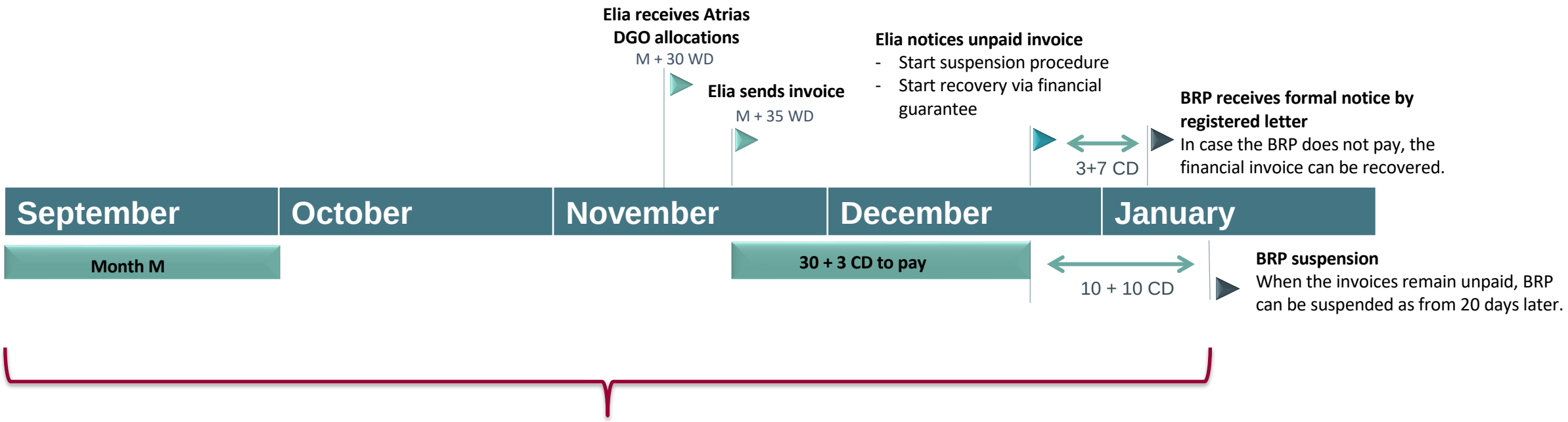
Today

Part 4 – Implementation plan and implementation of presented improvements with no required change to T&C BRP – Q4 ’24

Part 5 – proposition for changes to T&C BRP, discussion in WG BAL/CCMD, final report to CREG – Q4 ‘24

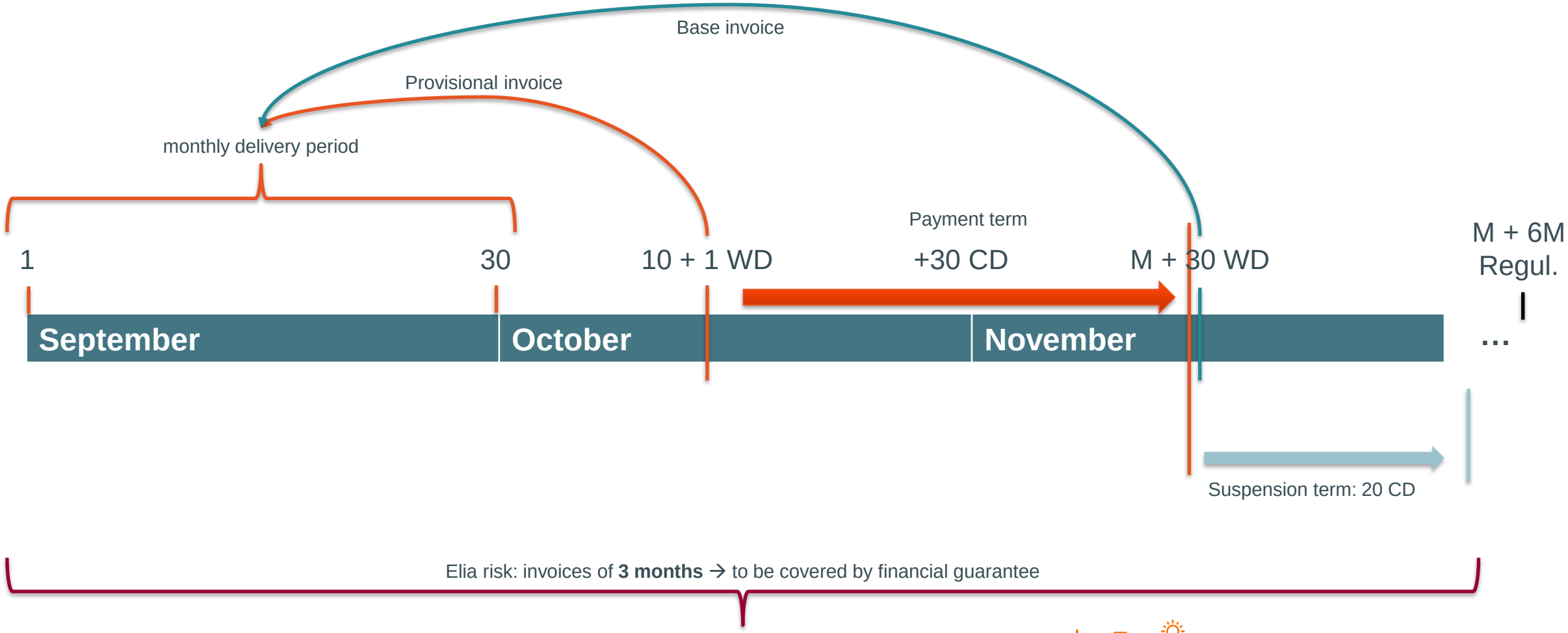
Recap of the study

Current settlement time – from delivery to suspension



Elia risk: invoices of **4,5 months** → to be covered by financial guarantee

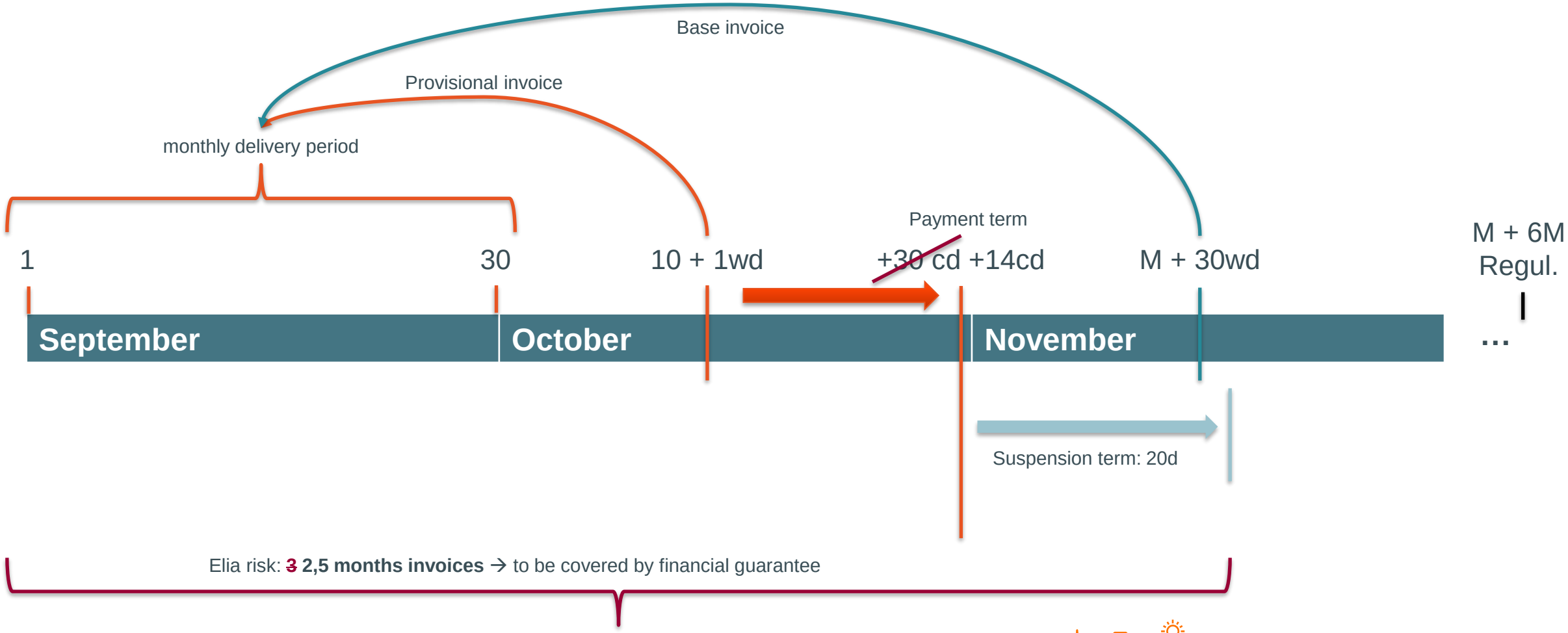
Proposition for settlement: Elia risk period reduced from 4,5 to 3M



Proposition of new formulas for the financial guarantee

- The current system of financial guarantees is inflexible and poorly adapted to actual market risk, due to 12-month highest invoice rule and an assumed imbalance price of 50 EUR/MWh
- **Invoice-based risk guarantee:**
  - A formula based on recent invoices is more appropriate
  - Proposition: weighted average of the past 3 months, with heavier weight on the most recent invoice
  - Weights add up to the 3, i.e.: the number of months to be covered
    - $Guarantee = \left(\frac{1}{2}\text{InvoiceAmount}_{m-3} + \text{InvoiceAmount}_{m-2} + \frac{3}{2}\text{InvoiceAmount}_{m-1}\right)$
  - Credit notes are taken into account as well (i.e. reduction of required financial guarantee)
- **Position-based risk guarantee:**
  - Position-based risk depends on current imbalance prices, therefore the average last month imbalance price (absolute values) is more appropriate
  - A minimum imbalance price of 50 EUR/MWh will be used
  - Assumption of 12-hour coverage of 100% imbalance (based on DA balance obligation)
    - $Guarantee = 12\ x\ Position\ x\ avg\_imbalance\_price_{M-1}$
- Financial guarantee = Max(Invoice-based risk guarantee, Position-based risk guarantee)
- The formulas were evaluated by comparison to the current system, on data of 2021 until 2023 included

Proposition for faster settlement, based on provisional allocations and a reduction in payment term



Impact of reduced settlement period and changed formulas on the financial guarantees

Scenario	All BRP – monthly average						
settlement time, financial guarantee	Outstanding amount (MEUR)	Avg. guarantee (MEUR)	Guarantee rel.	Avg. covered amount (MEUR)	Coverage	Avg. exposed amount (MEUR)	Exposure
4,5M, current formula	106	87	100%	48	45%	58	55%
4,5M, new formula (w: 4,5)	106	141	162%	95	90%	11	10%
3M, new formula (w: 3)	67	100	113%	54	81%	13	19%
3M, new formula (w: 2,5)	67	89	101%	50	74%	17	≈ 26%
2,5M, new formula (w: 2)	57	78	89%	42	75%	15	≈ 25%

The current formula and current settlement period cause a significant exposure for Elia

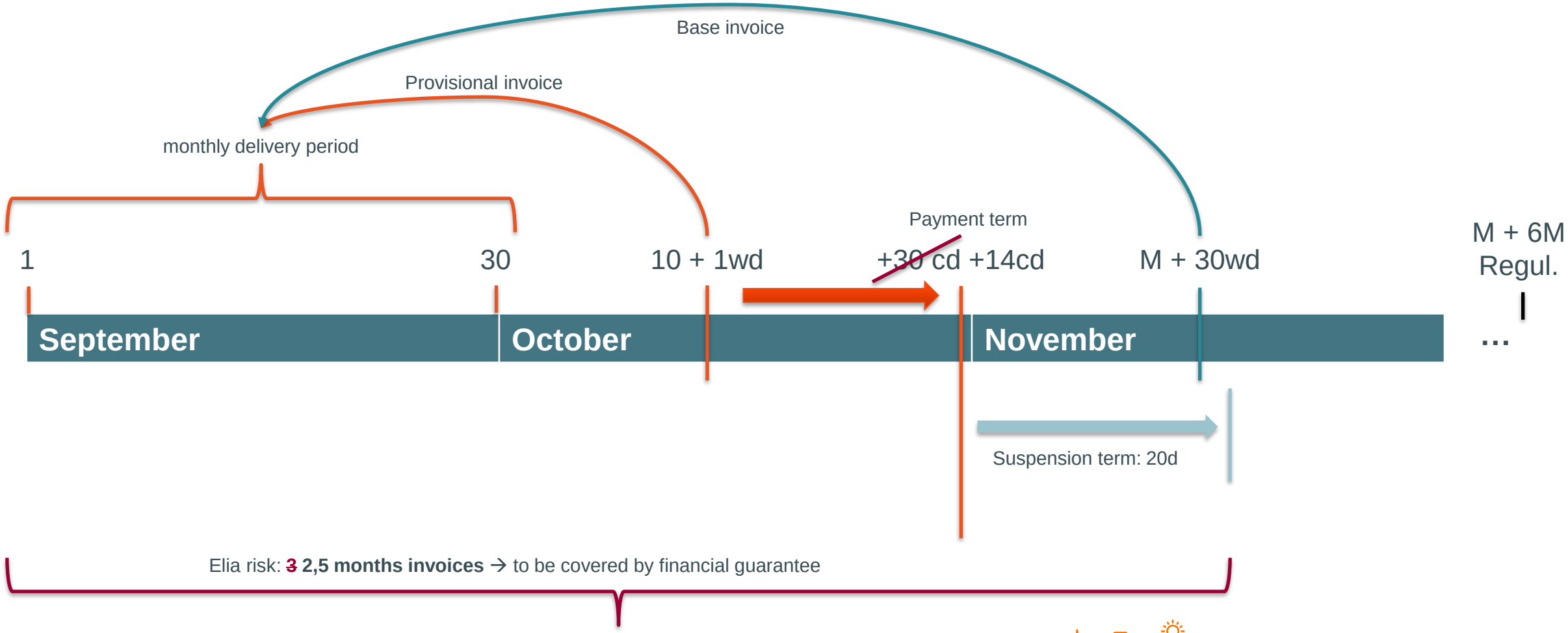
1. Applying the new formula, but keeping the current settlement period would drastically reduce exposure for Elia, but severely increase the financial guarantee for the BRP
2. Next, applying the new guarantees to a reduced settlement period keeps the exposure reduced for Elia, with a small increase in guarantees for the BRP
3. In order to neutralize the impact for the BRPs, Elia is willing to lower the weights. In this case, the financial guarantees remain at the same level, with a slight increase in exposure for Elia, compared to sum weights = 3.
4. Finally, a reduction of the financial guarantee could be realized. This is done by further reducing the settlement term via the payment term, with no impact for Elia on exposure.

Feedback of the public consultation & final design

Feedback received during public consultation

Topic	Reaction	Elia's feedback
Additional invoice & shorter payment term	Interesting to work based on an additional provisional invoice but Elia should leave open the choice for the BRP to be settled based on the provisional invoice	Elia sees no possibility to allow BRPs to choose an invoicing regime since it could create a cash flow risk (BRPs standing to gain money choosing the fast settlement, BRPs owing money choosing the slower one)
Financial guarantee	The financial guarantees go up due to 2,5 factor	Elia understands that FEBEG can agree with a 15 CD payment term for the provisional invoice. Therefore, the factor of 2 should be taken into account in the formula of the financial guarantee, not 2.5. This leads to a reduction, on average, of 11% in financial guarantee for the BRP population.
Financial guarantee	The financial guarantees will anyhow become more volatile	The new system will indeed offer the BRP a faster possibility to reduce the bank guarantee if the BRP forecasts his future invoices could be lower, however, the BRP could leave the amount of its guarantee unchanged if it believes future invoices will remain at the same level. Besides, Elia proposes to apply minimum thresholds that need to be exceeded before the financial guarantee needs to be updated whereas in the current system, a recalculation of the portfolio size or a slightly higher invoice might trigger a request for a higher financial guarantee.
Financial guarantee	We ask that, in the event of a decrease of the bank guarantee in place, Elia, at the request of the BRP, would send a formal letter of partial release directly to the issuing bank and provide the BRP with a copy of this letter for follow up	Elia considers that the BRPs have the best view on the assets in their portfolio, and related volatility in imbalances and related invoices. Therefore the decision to reduce the bank guarantee should remain at the BRP side, precisely to avoid creating volatility.
Consistency with BSP role	Overall, we would advice Elia that this new approach (15 CD) will also be applied to the other balancing contracts (BSP, FSP) for sake of consistency and to remove barriers for all involved market parties.	Elia takes note of the request to consider a 15 CD payment term, in both directions, for BSP and FSP settlement, and will investigate this within the incentive for faster BSP settlement in 2025.

Final design settlement period



Final design financial guarantees in function of settlement

- **Elia proposes to select the option which makes use of provisional allocations to inform BRPs and for settlement; reduces the payment term; reduces the financial guarantee; and reduces exposure for Elia and society due to weights adding to 2 in FG formula.**

Nr	Scenario	All BRP data		
0	Settlement time, financial guarantee	Financial guarantee relative to base scenario	Coverage	Exposure
1	4.5M, current formula	100%	45%	55%
2	4.5M, new formula (w: 4.5)	162%	90%	10%
3	3M, new formula (w: 3)	113%	81%	19%
4	3M, new formula (w: 2.5)	101%	74%	26%
5	2.5M, new formula (w: 2)	89%	75%	25%

Final design

- Elia proposes that this option is applicable for all the BRPs
- Due to absence of feedback on the transition plan, Elia considers that its proposition is acceptable for the market parties (i.e. one month where BRP receives 2 invoices, first provisional invoice has additional 14 days payment term).
- Elia reiterates that measures will be put in place to reduce volatility of the FG (30% threshold), and encourages BRPs to monitor evolutions in their portfolio when assessing if they want to lower FG when allowed.

Implementation status & next steps

Status changes with no adaptation of T&C BRP

- Within deliverable 3, Elia said it would implement 2 changes without need to change T&C BRP:
    1. Daily publication of provisional allocations → available as of September 2024.
    2. Implementation of warning system for BRPs when they can lower their financial guarantee. Not yet implemented.
        - BRPs have indicated they prefer Elia digitizes other functionalities first, deprioritizing this functionality.
        - Elia therefore proposes to postpone the industrialization of this warning system to Q1 ’25.

Next steps incentive

- The incentive report, describing the final design proposition, is being finalized (including the transition plan and an indication of impacted articles in T&C BRP);
- It will be published on the website of the public consultation, together with the feedback received during the public consultation and the consultation report;
- The changes will be proposed in the T&C BRP in the 2nd revision of 2025, with estimated go-live fall ’25

T&C BRP – Update & final design proposal

Simon Serrarens

Scope of revision track 1 2025

The public consultation will consist of the amendments from the current public consultation as well as some additional amendments:

- **Previous public consultation:** SDAC & SIDC, service multiple BRPs and some other small changes, with market feedback incorporated
- Additional amendments:
  - **Self-billing:** as decided by the tax authorities, the system of credit notes needs to be adapted to a system of self-billing. The deadline imposed for this is 01/07/2025. However, Elia aims to transition on 01/05/2025.
  - **External inconsistencies:** Elia has noticed an increase in external inconsistencies and receives questions on the process to be applied in case of external inconsistencies. Elia aims to put measures in place to help avoid external inconsistencies (outside of the T&C BRP), and to revise and update the process (described within the T&C BRP).
  - **BRP perimeter correction:** as requested by CREG and formalized in the RfA received on 14/11, Elia will introduce a BRP perimeter correction in case of activation of technical measures for incompressibility.

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Discussion today

External inconsistencies

External inconsistencies

Problem statement & solution approach

Problem:
1. Increase in external inconsistencies in the DA timeframe
2. No real possibility for the BRPs to resolve the inconsistency in ID, leading to second penalty.

Proposed solution based on 3 pillars

1. Maximize external inconsistency avoidance

2. Ensure a DA nomination is made

3. Clear incentive to correct DA mistakes in ID

1. Maximize external inconsistency avoidance | 2. Ensure a DA nomination is made | 3. Clear incentive to correct DA mistakes in ID

External inconsistencies

1. Maximise external inconsistency avoidance

- Warning system when missing a counternomination 30’ before gate closure time.
- Warning system when entering a mismatching nomination.
- Warning when entering an unusual nomination value.

→ Purely IT implementation (not described in T&C BRP), aim for go-live Q2 2025.

1. Maximize external inconsistency avoidance | 2. Ensure a DA nomination is made | 3. Clear incentive to correct DA mistakes in ID

External inconsistencies

2. Ensure DA nomination is made

On the **need** for double-sided DA nominations:

- It ensures that all market parties have a view on their confirmed trades.
- Past events prove that even CCP nominations can be wrong or incomplete. Elia can therefore not rely on single-sided nominations, even if the counterparty is a CCP.
- The nominations are an important input for calculating the Day-Ahead imbalance of a BRP, for which the Maximum Authorized Day-Ahead Imbalance needs to be respected (cfr. T&C BRP). The Maximum Authorized Day-Ahead Imbalance also allows to assess whether BRPs made correct nominations.
- When there is a mismatch in nominations, or an absence of nominations, it becomes more difficult for NCC to know what will happen on the grid.

External inconsistencies

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- When there is a mismatch in nominations, or an absence of nominations, it becomes more difficult for NCC to know what will happen on the grid.

Given the **need** for double-sided DA nominations, there needs to be an **incentive to make those nominations**:

- Elia introduces the Reduction Factor for External Inconsistencies (RFEI). The invoice for DA external inconsistencies at DA deadline is multiplied with the RFEI.
- RFEI will initially be set to 0%, setting the invoice for DA external inconsistencies at DA deadline to 0.
- Elia requires BRPs to make qualitative DA nominations, as mandated in the T&C BRP. Not making qualitative nominations is a breach of the contract.
- In case monitoring shows an absence of qualitative nominations, Elia will request an increase of RFEI to 100% to CREG. With CREG approval, this can be done without an amendment to the T&C BRP, effectively reintroducing the full invoice for external inconsistencies in DA.

1. Maximize external inconsistency avoidance | 2. Ensure a DA nomination is made | 3. Clear incentive to correct DA mistakes in ID

External inconsistencies

3. Clear incentive to correct mistakes in ID

- Currently, the design and penalty scheme offers no guidance to a BRP as to whether to make the correct counternomination in ID (which leads to a second inconsistency invoice in the current design) or to not nominate, resulting in an imbalance (which might be positive or negative). This in turn leads to questions and frustrations from market parties, as they are ‘doubly penalized’, even if they want to rectify the situation.
- Elia will implement a **rectification nomination system** in ID, to correct nominations made in DA. These will not lead to a new external inconsistency, and will not generate a second inconsistency invoice. This provides a clear incentive to rectify the error in ID.
- Not making the rectification nomination leads to an invoice for DA external inconsistency at ID deadline, which is based on the Tariff for external inconsistencies (inconsistency volume * imbalance price). This eliminates the case for gaming in ID await the System Imbalance and Imbalance Price.

BRP perimeter correction

BRP perimeter correction

General approach

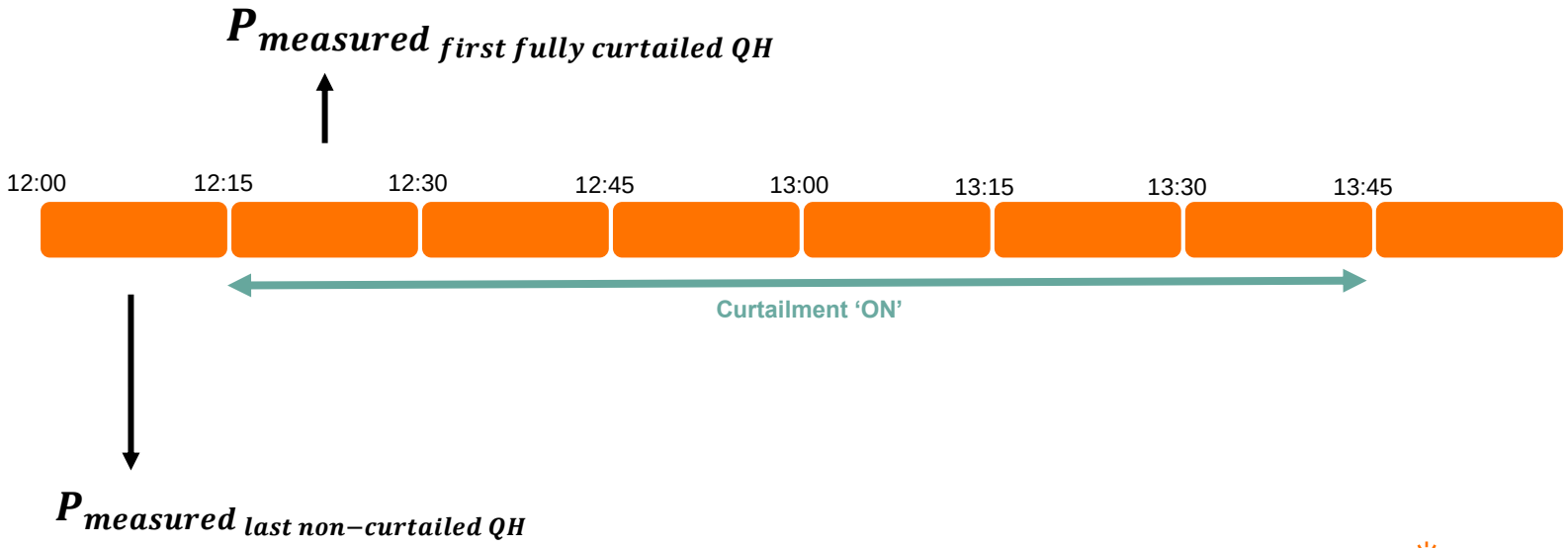
- Elia received an RfA from CREG on 14/11, to include a BRP perimeter correction in case of activation of technical measures for incompressibility.
- It is the responsibility of the BRPs to be balanced in Real-Time. Failing this, the responsibility to maintain the balance in the grid lies with Elia, and will in turn hold the BRPs financially accountable via the settlement of the BRPs balancing perimeter.
- In this context, the BRP perimeter correction will be performed as follows:
  - After an activation of Technical Measures for Incompressibility, the DSOs share the relevant data of the affected points with Elia.
  - After receipt of the data, Elia will apply the perimeter correction via the baselining method ‘last Qh’.
  - This in turn leads to the financial settlement through the imbalance invoice between Elia and the BRP.
- This leads to 2 changes in the T&C BRP:
  - Addition of Art. 20.9 on BRP perimeter correction in context of application of Art 7.3. of LFC BOA.
  - Amendment of Art. 29 on BRP invoicing to introduce the invoice for Incompressibility.

BRP Perimeter correction – computation methodology

Method ‘last Qh’

What: For each quarter hour (during which the curtailment signal has been ‘ON’):

$$\boldsymbol{Correction\ per\ Activated\ Point, for\ a\ curtailed\ Qh} = \boldsymbol{P_{measured\ last\ non-curtailed\ QH}} - \boldsymbol{P_{measured\ first\ fully\ curtailed\ QH}}$$



Incentive ‘24 & ’25 - Data provision roadmap

Michiel Verbeeck

CREG Incentive

AMÉLIORATION DE LA MISE À DISPOSITION DE DONNÉES PAR ELIA

Why

Improve the data offering of Elia towards the market actors by **building a common roadmap** so that your current and future data needs are fulfilled so that you can **unlock flexibility in the system**.

Improve existing data solutions

Enhance our existing solutions that improve the existing customer journey

Performed actions:
- Increase performance and responsiveness of the EPIC UI through technical optimizations and new front-end implementation
- More reliable PPAD Insight by usage of provisional values for the next 12 months (still to be released)

Build new data solutions

Provide new data sets or new channels that increase the efficiency of customers

Performed actions:
- Forecasted imbalance price as presented on the WG Energy Solutions in October
- API Carbon Intensity as presented on the WG Energy Solutions in November
- API for GU Metering (deep-dive WG Energy Solutions in December)
- Opening-up sftp for Entso-E transparency data (to be open in Q1 ’25)

Further investigate data needs

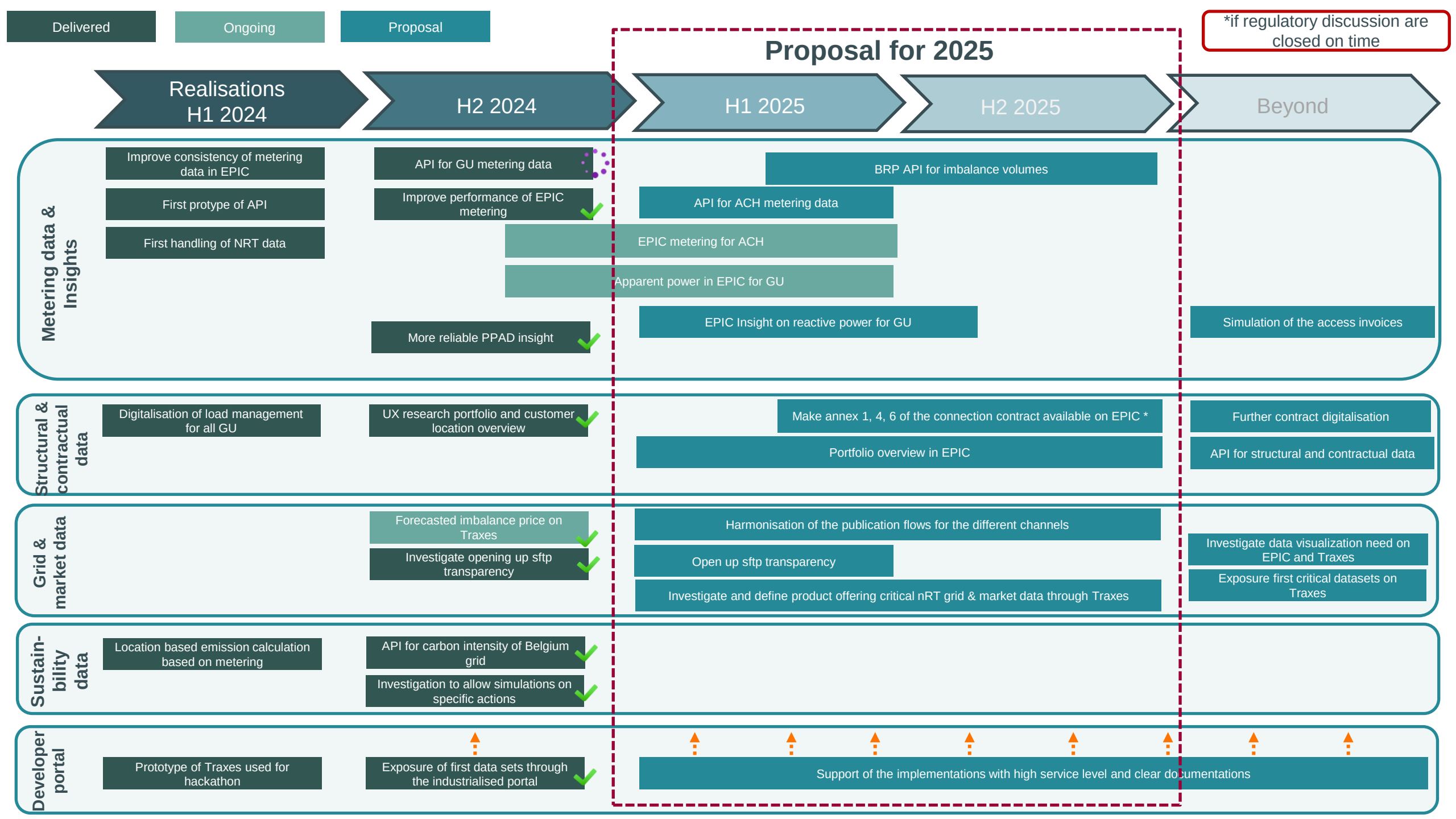
Investigate with our customers new improvements and data needs

Performed actions:
- Digitalisation journey from portfolio overview as presented on the WG Energy Solutions in October
- Sustainability solutions

Prepare implementations for ‘25

Plan further improvements in 2025 based on customer feedback

Planned actions:
- Expand further metering provisioning on EPIC and Traxes (API-based)
- Insights on reactive metering
- Digitalisation of the new connection contract
- Portfolio overview in EPIC
- Opening up Transparency sftp


Delivered
Ongoing
Proposal
*if regulatory discussion are closed on time
Proposal for 2025
Realisations H1 2024
H2 2024
H1 2025
H2 2025
Beyond
Metering data & Insights
Improve consistency of metering data in EPIC
First protype of API
First handling of NRT data
API for GU metering data
Improve performance of EPIC metering
More reliable PPAD insight
BRP API for imbalance volumes
API for ACH metering data
EPIC metering for ACH
Apparent power in EPIC for GU
EPIC Insight on reactive power for GU
Simulation of the access invoices
Structural & contractual data
Digitalisation of load management for all GU
UX research portfolio and customer location overview
Make annex 1, 4, 6 of the connection contract available on EPIC *
Portfolio overview in EPIC
Further contract digitalisation
API for structural and contractual data
Grid & market data
Forecasted imbalance price on Traxes
Investigate opening up sftp transparency
Harmonisation of the publication flows for the different channels
Open up sftp transparency
Investigate and define product offering critical nRT grid & market data through Traxes
Investigate data visualization need on EPIC and Traxes
Exposure first critical datasets on Traxes
Sustain-bility data
Location based emission calculation based on metering
API for carbon intensity of Belgium grid
Investigation to allow simulations on specific actions
Developer portal
Prototype of Traxes used for hackathon
Exposure of first data sets through the industrialised portal
Support of the implementations with high service level and clear documentations

Metering API for Grid Users

What is it and for who?

The metering API is available to all Elia Grid Users who have a signed connection contract and allows them to request metering data of their own access points and underlying metering points.

- For historical data, but also up to near real-time
- Different data granularities possible (Qh, hourly daily, monthly)
- For the different measured properties

What value does it bring for the grid user?

- Allow easier integration of metering data in the workflows of the grid user.
- Secure data communication towards the grid user
- Increase maintainability of the grid user application landscape by using standardized technologies.

Co-created and tested with 3 grid users!

Live since the week of 16th of December

Next step is to expand solution to other stakeholders

Are you interested or do you want more information: visit https://www.traxes.io/ or contact us metering.services@elia.be

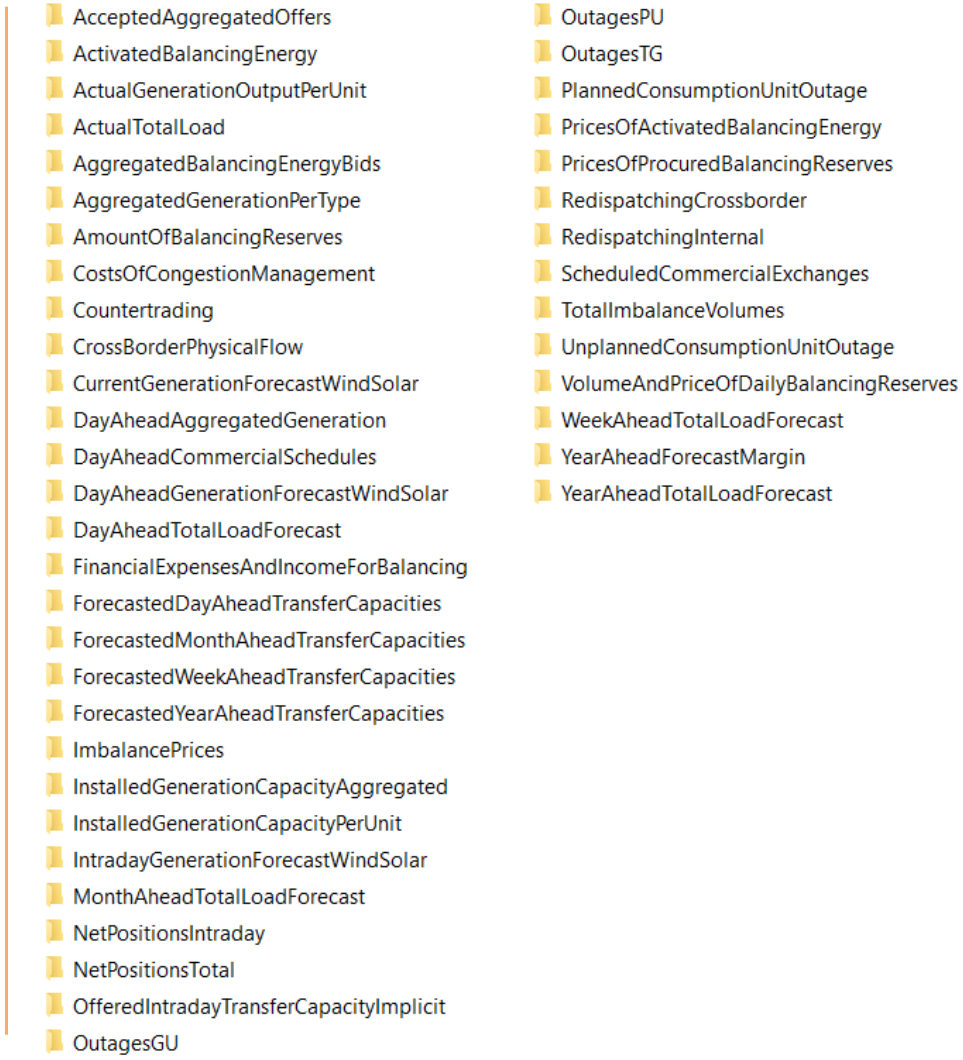
Opening the Elia Transparency SFTP

What is it ?

- It has been detected that usage of the Entso-e transparency platform has proven some difficulties.
- Elia therefore proposes to open its SFTP to offer a backup consultation channel for Elia's transparency data currently published on Entso-e.
- The available publication are only ones where Elia is defined as "Data Provider 1" and will not contain other data (such as for other TSOs/borders)

Disclaimer on its usage

- This channel is to be used for informational purposes only.
- The quality of the data is therefore not guaranteed. The authoritative portals for these data are Elia Opendata and Elia.be.
- All documentation related to these publications can be retrieved on Entso-e transparency platform.
- Entso-e data are still retrievable via Entso-e APIs and the Entso-e SFTP



For more information & user guide : visit https://www.elia.be/en/grid-data
For access and questions please contact transparency@elia.be

Agenda

09:00 – 09:05: Welcome and approval MoM

09:05 – 09:45: Imbalance Price – Outliers Analysis

09:45 – 10:30: Real-Time Price – Evaluation parallel run

10:30 – 10:55: BRP-BSP – feedback workshops

10:55 – 11:25: Incentive ‘24 – BRP Settlement – public consultation report & final designs

11:25 – 11:55: T&C BRP – Update & final design proposal

11:55 – 12:15: Incentive ‘24 & ’25 - Data provision roadmap

12:15 – 13:00: Lunch

13:00 – 13:15: Feedback on the public consultation of the T&C BSP FCR

13:15 – 13:25: Incentive ‘25 - Knowledge Management

13:25 – 13:45: Incentive ‘25 – LV Prequalifications

13:45 – 14:05: Incentive ‘24 – Energy Management Strategies – Feedback public consultation

14:05 – 14:35: EU & BE Balancing Program Update

14:35 – 15:05: Working Plan 2025

15:05 – 15:15: AOB

Feedback on the public consultation of the T&C BSP FCR

Raf Gheuens

Objective today

– Provide a summary of the main feedback on the proposed amendments to the T&C BSP FCR

Overview response public consultation

– Elia received non-confidential answers from:
– FEBEG
– Febeliec
– Centrica
– +1 anonymous response

Next steps

– Elia will finalize the consultation report & proposal of Amendments to the T&C BSP FCR
– Official submission to CREG by EoY and documents will be published on the website

Limited Energy Reservoirs and State of Charge

STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEW
FEBEG	• The changes presented in the documents seems very targeted for battery storages (BESS). FEBEG wants to remind that Limited Energy Reservoirs can be other technologies than BESS. • The design note and the T&C FCR often refers to the concept of State of Charge (SoC). We have two comments. Firstly, there is no definition corresponding to SoC which leaves it open for interpretation. Secondly, State of Charge is relevant information for battery storage (BESS) but LER is wider than BESS only. • The design note and the T&C's do not refer to the efficiency of a LER. This means the percentage of the percentage of additional energy to recharge LER (e.g. recharging 100 MWh could 'consume' up to 115 MWh). FEBEG is asking if it is intentional not to include this element? • Similarly, some BESS have quite large Energy to Power ratio (e.g. 100 MW and 400 MWh, which is a ratio equal to 4) with long ability to deliver energy in one direction. Can we consider these are exempted from the amendments under consultation?	• Elia understands the need for a clear definition of the concept of State of Charge and **has added this in the proposed amendments of the T&C BSP FCR**. • Elia understands the feedback that LER is wider than BESS and would like to invite FEBEG to share more specific information on of Delivery Points with Limited Energy Reservoir that cannot define their SoC and would deliver FCR. • The proposed rated to prequalified power ratio for LER DPs does not account for efficiency. For assets with an efficiency that require the BSP to deviate from this ratio in order to fulfill the obligations of the FCR Service, the BSP has to demonstrate their ability to provide the FCR Service in their Energy Management Strategy. • With respect to the larger Energy to Power ratios, Elia would like to refer to the definition of Delivery Point with Limited Energy Reservoir (DP LER) that clearly states when a Delivery Point is considered a DP LER. This definition can be found in the Additional Properties and is translated in the proposed amendments of the T&C BSP FCR.

Reserve Mode

STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEW
FEBEG	We were also wondering whether targeted units by additional properties which are already prequalified would need to prequalify again (at the moment T&C enter into force)?	With regards to the re-prequalification after 5 years, Elia would like to clarify that **all Providing Groups that have been prequalified before the entry-into-force of the T&C, do not need to implement Reserve Mode, even after re-prequalification**. With regards to the application of reserve mode to providing groups with both LER and non-LER, or to newly prequalified LER delivery points joining a providing group with existing LER assets, Elia would like to clarify **that providing groups containing DP that should have reserve mode implemented, must apply reserve mode**. If a BSP decides to combine previously prequalified LER and newly prequalified FCR in one providing group, **Reserve Mode must be applied on the entire providing group.** **For providing groups containing both non-LER and LER, Elia considers the providing group LER and the FCR Requested shall be calculated accordingly.** However, Elia would like to remind the BSPs that the minimum activation period of 25 minutes in Alert State is a minimum requirement, and DPs that can continue to deliver FCR after this minimum period are required to do so. If Elia notices a failure to do so, they can request a sound justification from the BSP in accordance with article II.2.6.
Centrica Energy	The amended terms introduce a reserve mode to avoid depletion or saturation of assets with a limited energy reservoir (LER) during alert states. We suggest clarifying in articles II.6 and II.11 as well as Annexes 6 and 11.B that LER delivery points prequalified before the amended T&C FCR take effect will be exempt from this requirement, as noted in the June workshop. The T&C FCR are also unclear on several points. They do not specify how the reserve mode applies to providing groups with both LER and non-LER, or to newly prequalified LER delivery points joining a providing group with existing LER assets. Additionally, the T&C FCR do not clarify how non-prequalified LER assets joining a providing group will be managed, or how the reserve mode applies when a group so far exempted from the requirement renews its prequalification after five years. We would welcome further details on these points to ensure regulatory certainty.	

Prequalification of non-compliant units

STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEW
Centrica Energy	We disagree with the proposal in Article II.11, allowing assets with technical limitations, such as non-linear or delayed response, to request prequalification. Although the additional properties provide this possibility to system operators, we believe it undermines service quality and competition on a level playing field. In a context with increasing renewable generation and lower inertia, it seems counter-intuitive to facilitate market access for assets with slower or non-linear responses, instead of ensuring compliance with the FCR standard and incentivizing faster responding assets. If such assets are to be prequalified, we recommend at least derating the prequalified volume to account for technical limitations.	While Elia understands the rationale of the BSP, Elia would like to further **encourage the development of the FCR market** via such derogations to attract liquidity and improve competitiveness of the FCR market. Additionally, **putting such a derating would be against the level playing field, which is being built across the FCR Cooperation**, given that other TSOs are not putting such a mechanism into place and would be therefore detrimental to the Belgian BSPs. However, Elia does not discard this possibility if such mechanism is implemented in the FCR Cooperation or that liquidity becomes sufficient. For the above reasons, Elia has maintained its proposal.

Incentive ‘25 - Knowledge Management

Sander Claeys

CREG Incentive Knowledge Management | What does it take?

Generally,

1 **Make complex flexibility products more accessible** for all market players

A. Organize 2 workshops with diverse market parties to chart information needs, priorities & approach (which products, which format, which order…)

B. Create / update design notes for flex products (focus on FCR and aFRR)

C. Update website w.r.t. flexibility (incl. improved design) to make it simpler & more accessible; This includes short & clear videos for FCR, aFRR, mFRR & CRM to explain product, requirements & expected value

D. Extend Watts.happening and other webpages explaining flex products and their value

Specifically,

2 **Reach new players** such as Elia GUs, SMEs & ESPs to take a more active role in offering flex

A. Organize roadshows to inform on flex products & its valorization for a diverse target audience (approach to be tested in workshops 1A)

B. Improve onboarding of new players in flex markets (info exchange, packet (?), contract explanations…)

3 **Discuss with OEMs** to inform them aiming to get more flex ready devices, and also to improve Elia's product design

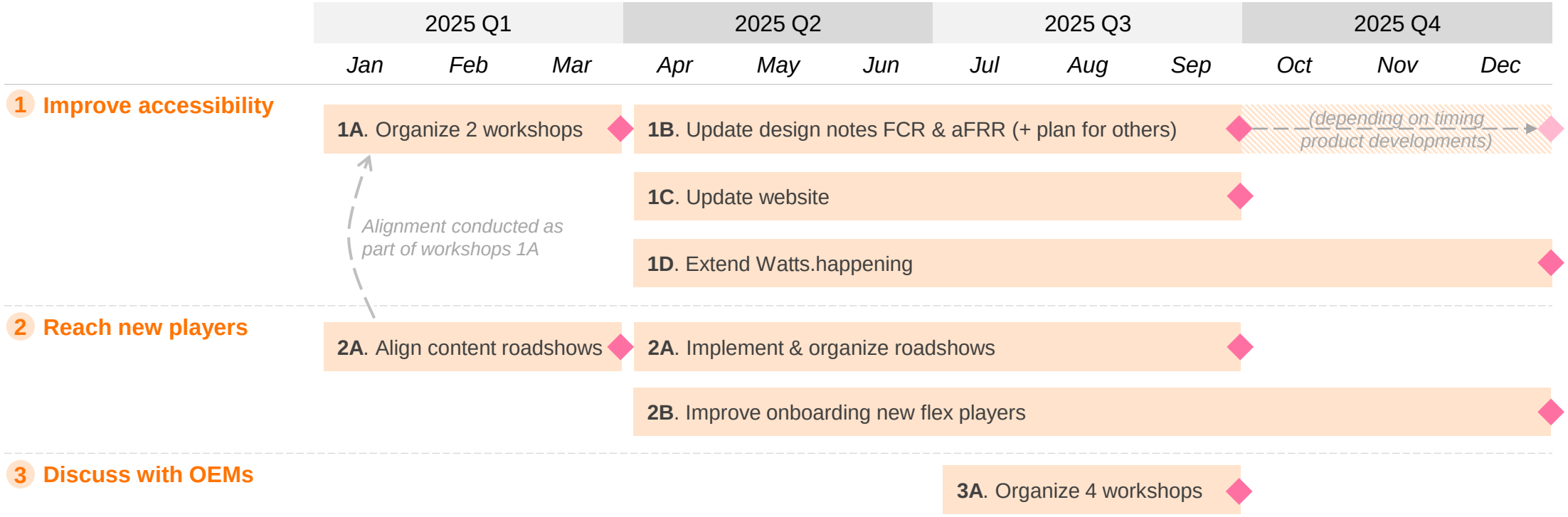
A. Organize 4 workshops with producers of EVs (charging poles), heat pumps and electric boilers, home batteries & PV sector (inverters)

Source: CREG decision (B)658E/89, 17 October 2024

CREG Incentive Knowledge Management | By when?

Timing of specific deliverables as set out in CREG decision

Legend: *Activity* *Deadline*



***Next step**: Organizing workshops w. market parties in Q1 2025 to gather input*

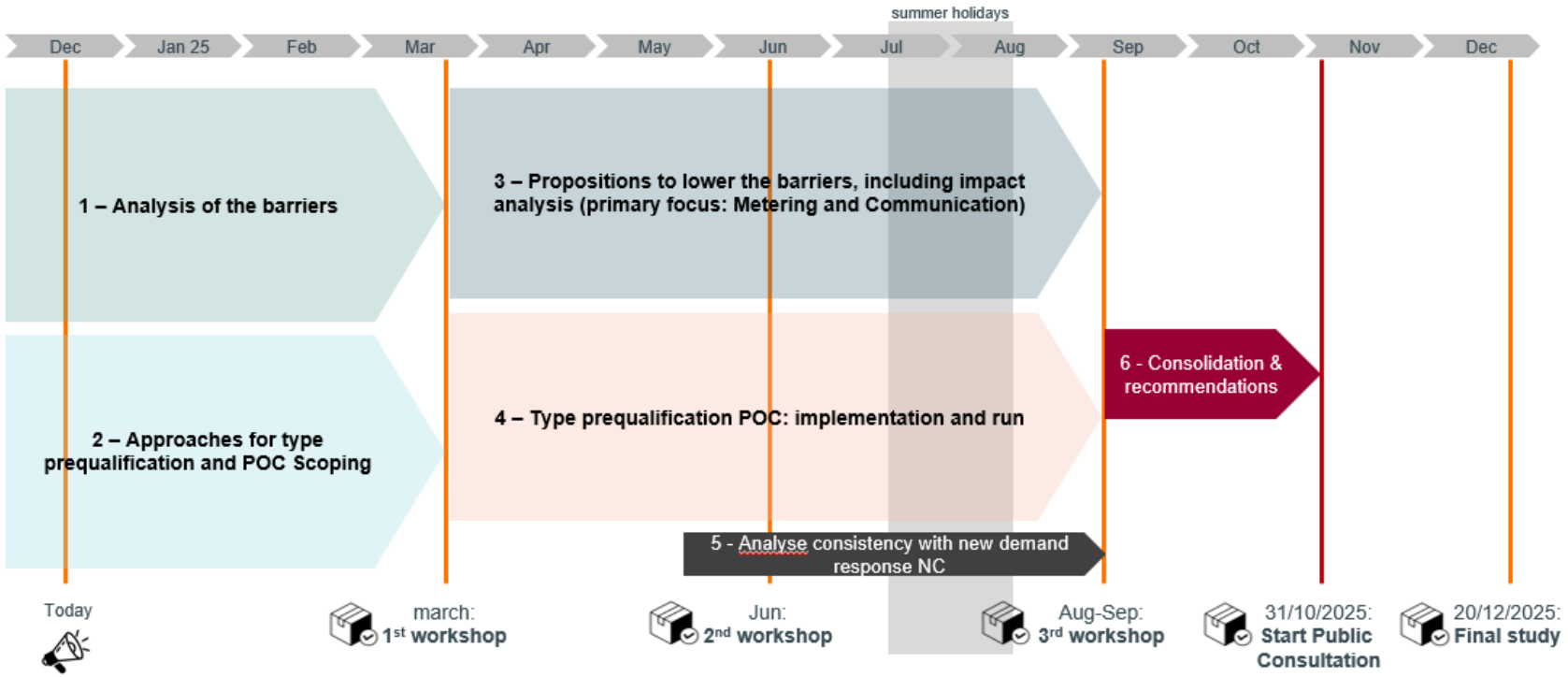
Source: CREG decision (B)658E/89, 17 October 2024

Incentive ‘25 – Prequalification process and Metering and Communication requirements for low voltage assets

Arnaud Debray

The project in a nutshell

Goal of the study: Analyze the possiblity (and propose evolutions) to simplify the **prequalification** process as well as reduce **measurement** and **communication** requirements for **LV assets** to participate in various balancing services



Involvement of WGES stakeholders

- In the coming weeks and in January, we will actively interact with BSPs to gather **inputs regarding the entry barriers to balancing markets for LV assets**. Feel free to contact us if you have feedbacks to share

- 3 **presentations (in WGES or dedicated workshops)** in which we will share our results, findings and open questions seeking for feedback: March, June and September

- Elia will contact **Original Equipment Manufacturers to organize a POC** on type prequalification. We invite any WGES member to suggest partnership with a specific OEM if relevant

- **Public Consultation** of our study to start in October 2025

Incentive ‘24 – Energy Management Strategies – Feedback public consultation

Kris Poncelet

Timeline

Objective today

Provide a summary of the main* feedback on public consultation as well as an implementation plan.

Overview response public consultation

Elia received answers from:

- 4 Non-confidential stakeholders
  - FEBEG
  - CENTRICA
  - BSTOR
  - BNEWABLE
- + 1 confidential response

Next steps

Elia will finalize the study and the consultation report

Elia will publish the updated EMS requirements and updated dataset

* An extensive overview of all comments and Elia's response will be provided in the consultation report

General Feedback

Market Feedback	Elia's response
• **Centrica Energy overall has a positive view** of the proposed modifications to the EMS requirements. • **FEBEG supports the approach of Elia** which aims at striking the right balance between (i) relying on contracted reserves that are genuinely available and (ii) not putting overly complex rules which would undermine the market liquidity. FEBEG further supports the list of different EMS described. • **BSTOR** generally understands the need for clear and transparent guidance on energy management requirements and **supports the revision and harmonization of current requirements**, but at the same time expresses its concern that the **focus on LER might be exaggerated**. BSTOR explains that other technologies also possess constraints that might affect the delivery of the reserves they have been contracted for.	Elia thanks the stakeholders for their overall positive feedbacks. Elia agrees with BSTOR that different technologies face different technical constraints. In that sense, the prequalification process aims to ensure that the assets intended to be used to meet an aFRR capacity obligation (together) are effectively capable of delivering the service. In the past, the emphasis was primarily on the ability to follow a setpoint and to deliver the requested power within the full activation time (i.e., the prequalification test). However, **considering the increasing participation of LER in the FCR and aFRR balancing markets and the constraints inherent to such assets, Elia believes it is justified and required to foresee an additional step** in the prequalification process to ensure assets with a limited energy reservoir can continuously deliver the contracted service.

Feedback on the EMS requirements for combo's

Considered point	Market Feedback	Elia's response
Clarification of requirements in case of a **combo of contracted services** (e.g., aFRR and FCR) + proposal not to extend the EMS requirements to mFRR at this moment	• **Bnewable** appreciates Elia's effort to harmonize the requirements for FCR and aFRR balancing services. • **BSTOR** supports the revision and harmonization of current requirements, appreciates the improved framework for combo's and the improved framework around the statistical analysis. • **Centrica Energy** supports the conclusion that EMS requirements should not be extended to the mFRR program.	Elia thanks the stakeholders for their support of the proposed changes to consider combo's of contracted services.
EMS requirements in case of a **combo of contracted services** (e.g., contracted aFRR) **and non-contracted services** (e.g., ID trades, portfolio balancing)	• **Bnewable** indicates that there are inherent difficulties to describe anything related to the non-contracted services, especially considering the complexity of some BSPs. • **Centrica Energy** indicates that It is difficult to describe more than the power that can be used for the non-contracted services. • **FEBEG** expresses that it is absolutely key that non-contracted reserves are exempted of this scheme (EMS requirements).	Elia wants to reaffirm that the **EMS requirements are not applicable in case only non-contracted services are provided.** Elia would however like to recall that the provision of non-contracted services affect the energy in the reservoir and consequently could impact the ability to supply the service. As such, Elia believes some **minimal information related to the use of the DP with LER for non-contracted services is needed in case such services could be provided together with the contracted service**. Specifically, Elia only requires information related to: 1) the **maximal power that could be used for offering non-contracted services** together with the contracted service, and 2) The **conditions under which this power could be used** (e.g., depending on the SoC) **Update**: Elia proposes to not request information related to the lead time of the non-contracted services considering the feedback provided and the fact that the lead times for all non-contracted services tend to be limited. Elia would however like to clarify **that it does not request a description of the different non-contracted services the DP with LER might be used for**.

Feedback on the other amendments of the EMS requirements

Considered point	Market Feedback	Elia's response
Conditions related to an EMS based on Intraday transactions	**Centrica Energy**, **BSTOR**, and **Bnewable** all support the possibility to use sub-hourly intraday products.	Elia thanks the stakeholders for supporting this possibility.
Imbalance charging versus reactive balancing	**BSTOR** requests a clarification with regards to the difference between reactive balancing and imbalance charging.	Elia updated the EMS requirements to clarify that "Imbalance charging refers to the recovery of the SoC by changing the offtake from (injection in) the grid without any compensation measures (SoC supporting technical units or trades on the ID market) and **irrespective of the system imbalance**." Reactive balancing hence differs from imbalance charging as BSPs performing reactive balancing duly take into account the system imbalance and/or imbalance price.
Proposed approach for regularly updating the dataset for the statistical proof	**Centrica Energy** would appreciate additional details explaining how the dataset will handle the period with PICASSO and without PICASSO connection	Elia would like to clarify that the dataset will initially span both periods from before and after the PICASSO connection. However, the methodology for simulating the aFRR activations does not change significantly after the connection to PICASSO as PICASSO exchanges are already reflected in the global control target. For the period after the connection to PICASSO, the data will incorporate information on the CBMP as Elia no longer selects upward (downward) bids above (below) the CBMP..
Entry into force of the updates EMS requirements	**FEBEG** misses a general timeline and dates where changes would enter into force. FEBEG would like to have a clear visibility on the planning/ Timeline of the entry into force of the EMS requirements.	Elia proposes that the new EMS requirements enter into in force as of February 2025 (together with the updated dataset). With respect to the proposed targeted monitoring, Elia would like to recall that the specific requirements related to monitoring would require amendments to the T&C BSP aFRR and T&C BSP FCR. As such, the elements related to the monitoring will not entre into force before a corresponding amendment of the T&C BSP aFRR and FCR.

Feedback on the EMS monitoring

Considered point	Market Feedback	Elia's response
Elia has proposed a "targeted monitoring" requiring the BSP to fill in a template with raw data related to the actual operation of the DP with LER and the SoC-supporting actions. Elia could then perform a semi-automated monitoring process based on the data provided by the BSP, targeting specific periods.	• **Bnewable** regrets the additional burden that the new "targeted monitoring" introduces, especially considering the heavy endeavor of implementing aFRR, as well as the fact that such a monitoring is currently not justified by occurrences of LERs failing to deliver. • **BSTOR:** Due to the inherent complexity of monitoring LER as well as to maintain a technology neutral approach, BSTOR proposes to stick with the current ad-hoc monitoring where Elia only requests additional information in case of suspicious activity. • **Centrica Energy:** As Elia is currently investigating the possibility of continuous monitoring in FCR, CENTRICA thinks that the application of the targeted monitoring for FCR will increase the administrative and technical burden on BSPs and the value would not outweigh these additional costs/burdens. • **FEBEG** suggests that the best way forward seems to allow for a fast-track EMS validation and simultaneously be rather sharp on the monitoring of the executions of the strategies. The monitoring should be organized in such a way that the administrative burden is limited as much as possible.	**Elia observes that stakeholders have shared mixed views on the introduction of a targeted monitoring**. Elia would first of all like to recall that it **considers monitoring of the EMS essential to ensure service delivery** as i) a validated EMS might not remain sufficient due to changing market circumstances, and ii) there could be incentives for BSPs to not operate the DP with LER in line with the validated EMS. Elia would further like to recall that the **potential administrative burden was duly being considered in the evaluated monitoring options**. Elia further observes that, despite some concerns being raised, none of the stakeholders have expressed a preference for one of the other monitoring approaches that have been analyzed and discussed (except for BSTOR, which recommended to stick to the current ad-hoc monitoring). Nevertheless, **considering that the proposed monitoring approach would require changes in the T&C, Elia will take this opportunity to further analyze the possibilities to reduce the administrative burden of the targeted monitoring approach**.

EU & BE Balancing Program Update

Cécile Pellegrin / Kris Poncelet

Agenda of today's presentation

- aFRR Design evolutions & PICASSO Go lives

- Coming stakeholder management interactions – See • Working plan 2025 (CC & Balancing)

aFRR design evolutions & PICASSO Go lives

aFRR Design evolutions & PICASSO Connection

USERS' GROUP

Dear Market Party,

Elia would like to inform you of the following go-lives:

- On **19th of November 2024**, the go-live related to the **aFRR design evolutions** (including among others the possibility for BSPs to use a (de-)activation period shorter than the default Full Activation Time (FAT), the possibility for BSPs to use an aFRR real-time baseline and the amendments related to the participation of low-voltage delivery points) will take place;
- On **26th of November 2024 at 11am**, conditionally to the final European approval *, the amendments in preparation of **Elia's connection to the European Platform for the exchange of Balancing Energy from Frequency Restoration Reserves with automatic activation** (including an evolution from paid-as-bid to paid-as-cleared remuneration of aFRR energy bids and a relaxation of the bid price limit for non-contracted aFRR energy bids) will go live and the connection to the aFRR Platform will be established;
- On **4th of December 2024**, conditionally to the effective connection to the aFRR Platform **, the go-live related to the **evolution of the default Full Activation Time (FAT) from 7,5 to 5 minutes** will take place.

In the context of these go-lives:

- new versions of the T&C BSP aFRR will enter into force (link); and
- a new version of the Balancing Rules will enter into force (link).

Dear Market Party,

Elia would like to inform you that the final approval for the connection to the European Platform for the exchange of Balancing Energy from Frequency Restoration Reserves with automatic activation (aFRR Platform), in accordance with the accession process at European level, has now been obtained.

Therefore, Elia is pleased to confirm that the amendments related to Elia's connection to the aFRR Platform (including an evolution from paid-as-bid to paid-as-cleared remuneration of aFRR energy bids and a relaxation of the bid price limit for non-contracted aFRR energy bids) will effectively go live on 26th of November 2024 at 11am. At this moment, the effective connection to the aFRR Platform will start to be established.

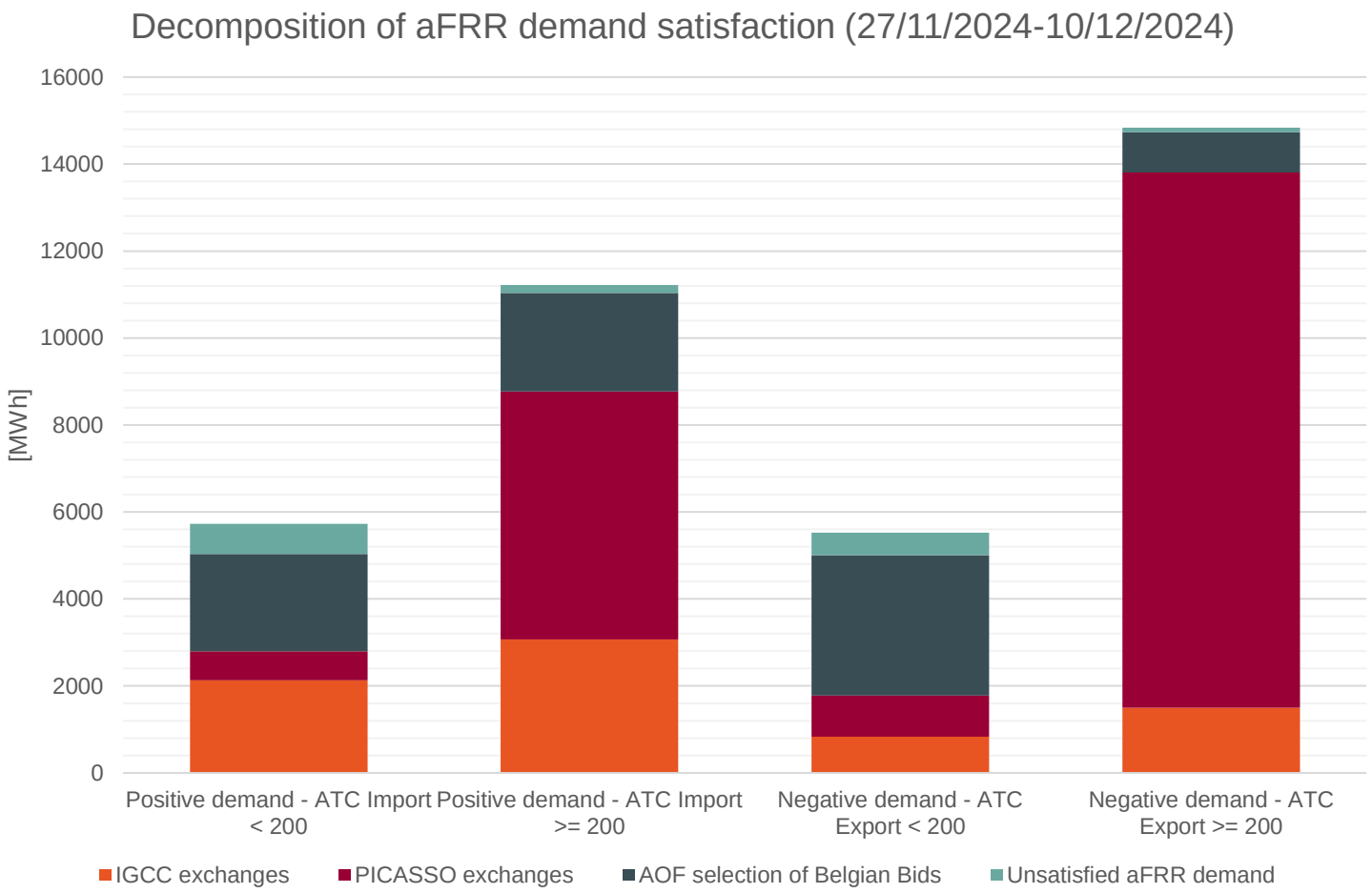
aFRR Design evolutions & PICASSO Connection

- **The 3 Go-live of aFRR Design Evolutions & PICASSO** took place between Mid November and early December as foreseen and **were successful, leading to a smooth and stable use of the new functionalities and of the connection to PICASSO** with effective impacts on the market results (see here after)

- ELIA faced some challenges in its real-time environment used for the calculation of the system imbalance and the imbalance price. The issue was due to data queuing of the high frequency 4s data component and has resulted in a limited number of quarter hours with an incorrect aFRR component of the imbalance price and/or an incorrect system imbalance. The issue has been in the meantime solved.

- Detailed planning of the **MARI connection** will now be reviewed in order to confirm the target go live window.

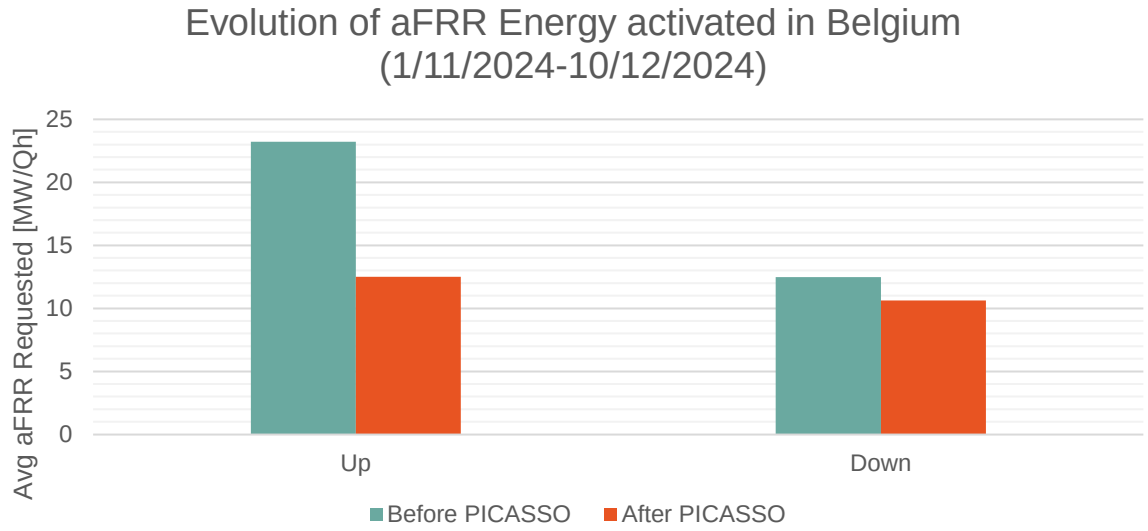
Satisfaction of aFRR demands



1. In case cross-border capacity is available, the vast **majority of Elia's aFRR demand is satisfied through the European platforms** (and notably PICASSO)

2. **Unsatisfied aFRR demands remain highly limited**, in particular when ATC is available and in the downward direction

Selection and activation of Belgian aFRR Energy Bids



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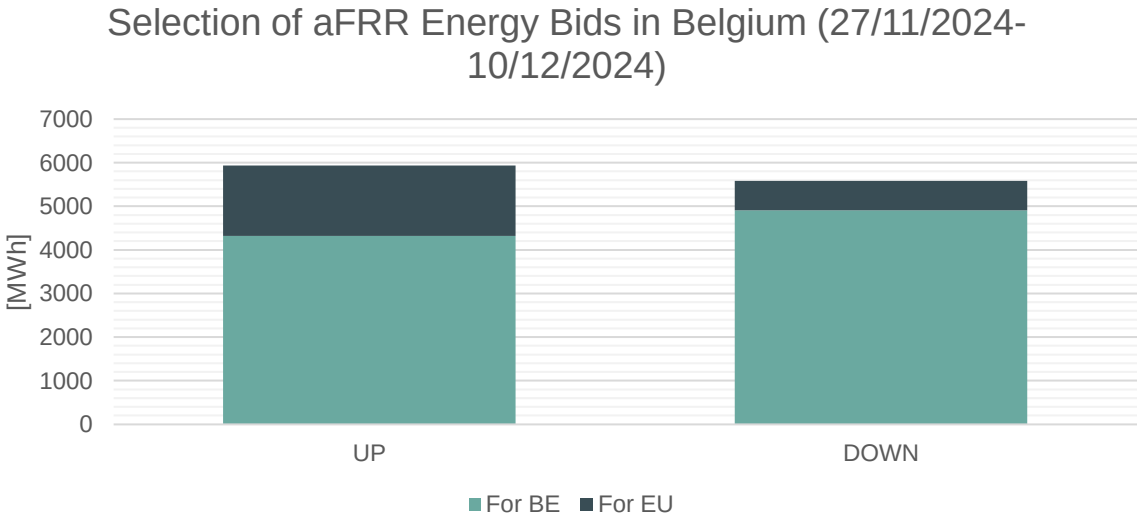
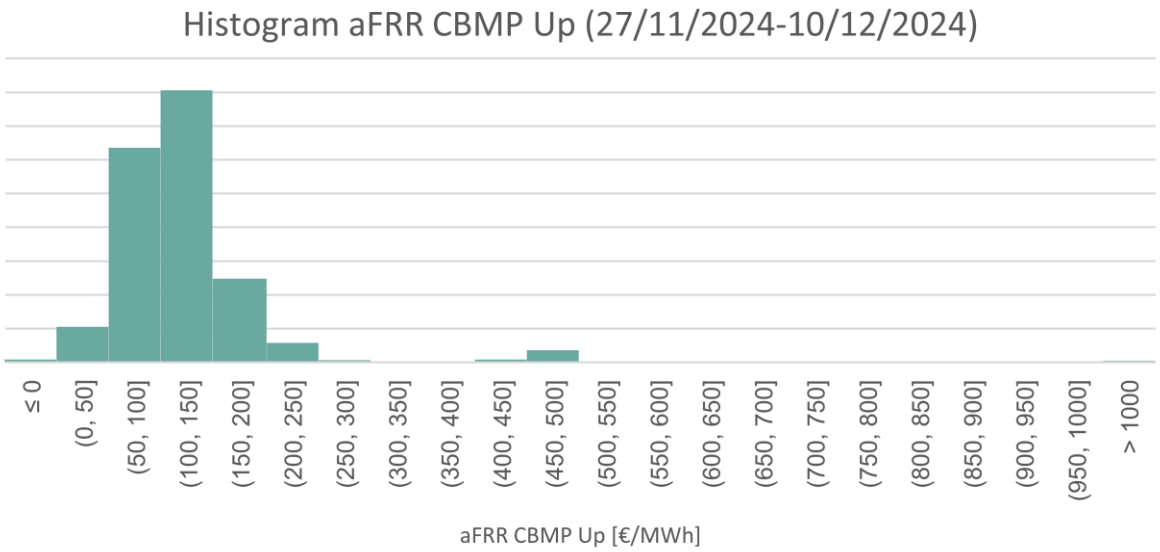
1 A clear **decrease is observed in the volume of activation of aFRR Energy Bids in Belgium**

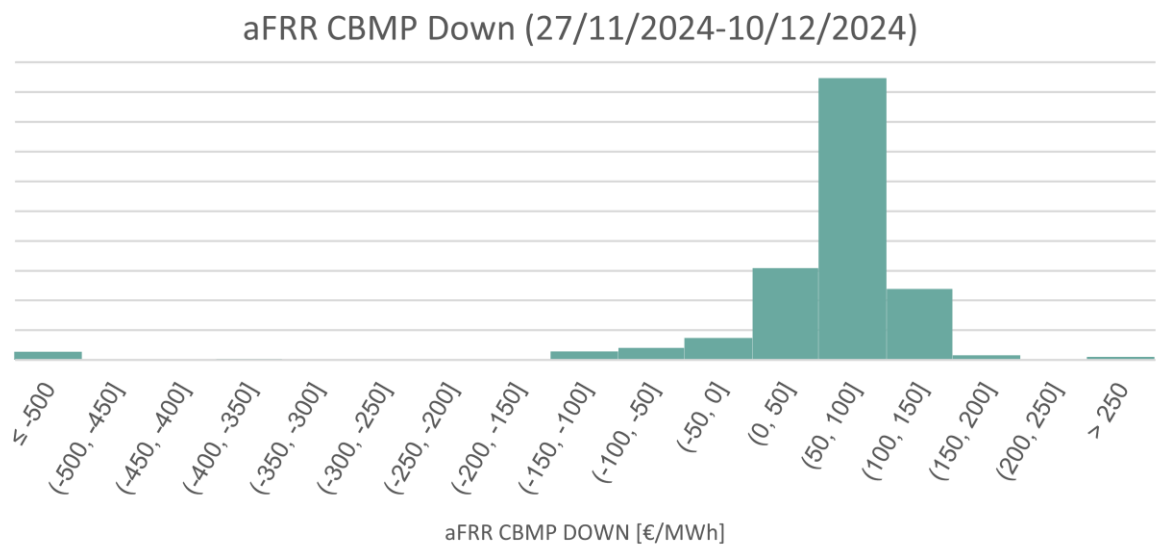


2

2 The **connection to the aFRR Platform also provides opportunities for BSPs**. While the overall volumes of bids selected for satisfying other TSOs' demands are currently limited, the opportunities for bids early in the merit order could be significant.

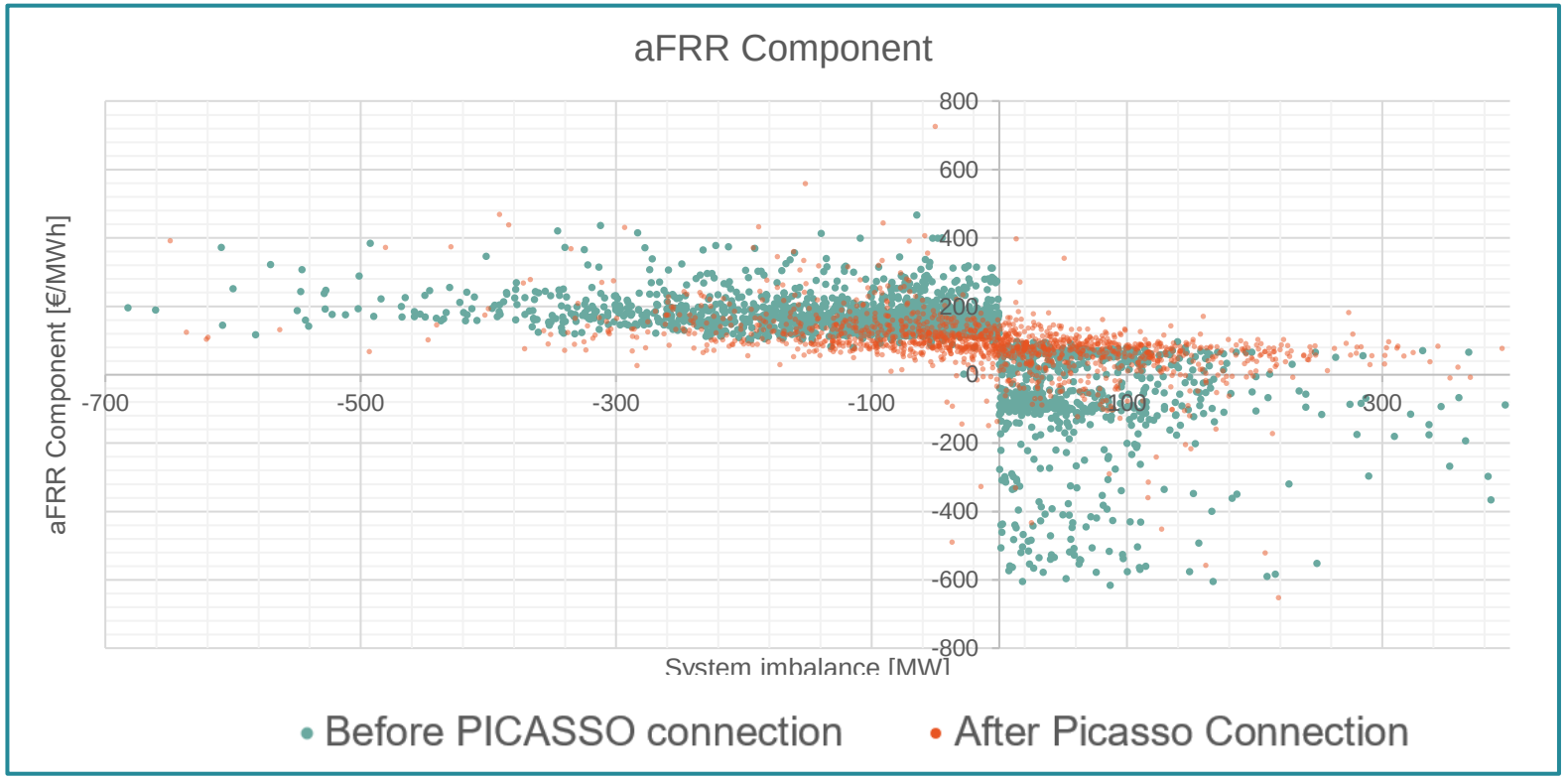
aFRR Cross-border marginal prices (CBMPs)





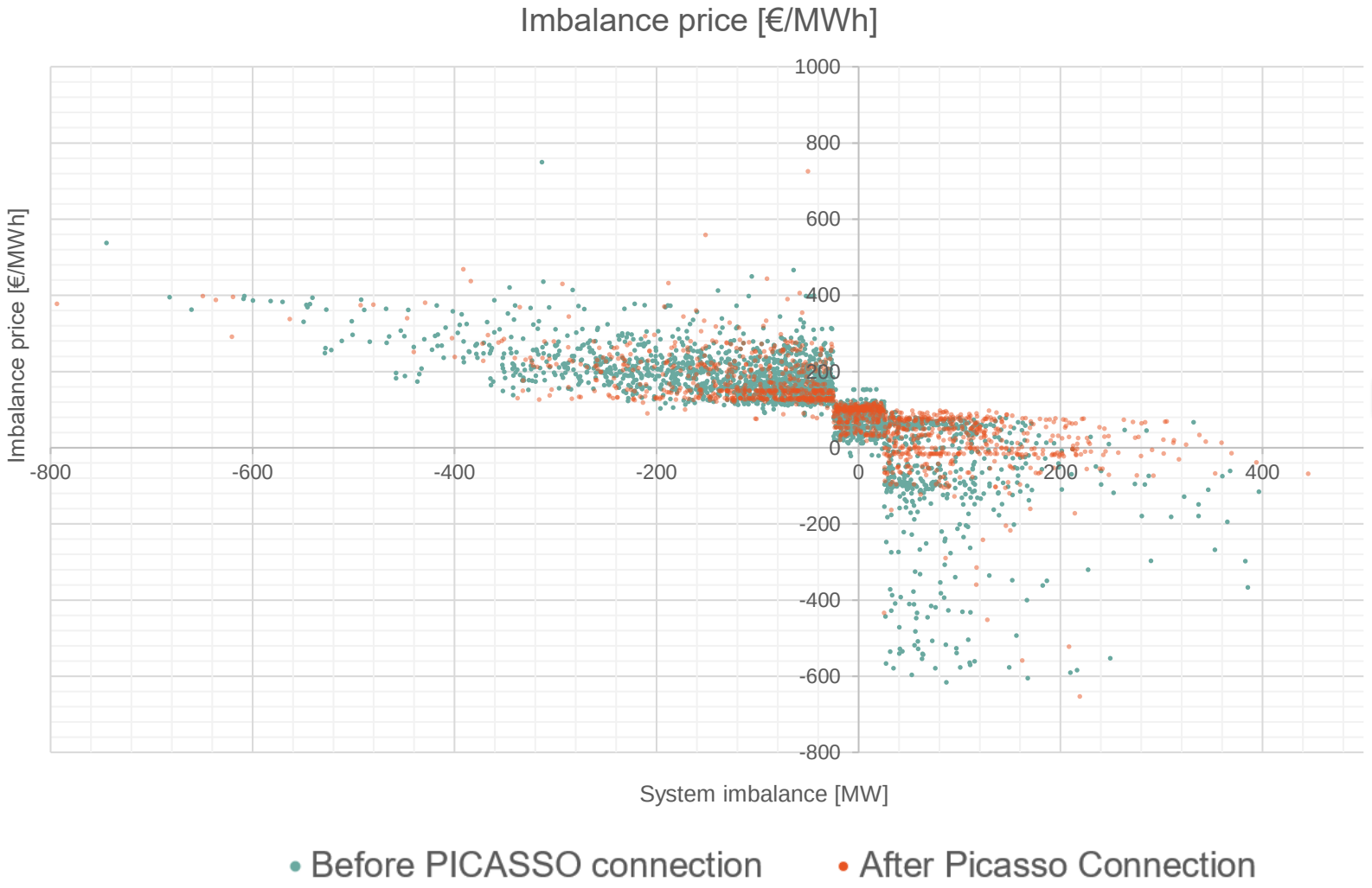
The **observed aFRR CBMPs remain to a very large extent within very reasonable price levels**

Impact on imbalance price – aFRR component



- For negative system imbalances, the aFRR component tends to be significantly lower after connection to the aFRR Platform
- For positive system imbalances, the aFRR component tends to be significantly higher (and almost always positive) after connection to the aFRR Platform
- The discontinuity of the aFRR component around a system imbalance of 0 MW has disappeared

Impact on imbalance price formation – imbalance price



More moderate aFRR component leads to **lower imbalance prices**

Others

Contact persons

KAM Energy

Nicolas Koelman / Sybille Mettens / François Jadoul

Working Plan 2025

Cécile Pellegrin / Alexandra Verbrugge

Reminder WG BAL 26/11/24

Outlook 2025 – Energy Solutions

An integrated outlook for the further development of **flexibility** as an enabler for the energy transition will be provided in a 2 steps approach, allowing market parties to provide feedback.:

KEY DIMENSIONS
BRP - BSP
Increase liquidity and competition in **explicit** balancing and foster ToE at all voltage levels
Lower barriers for participation in **implicit** (balancing) markets through evolution of real-time price and foster multiple BRP/supply split at all voltage levels

WG Energy Solutions 16/12

Working Plan 2025

Opportunity for feedback

Beginning 2025

High Level Roadmap 2025-2028

Lookback 2024

Reminder WG BAL 26/11/24

Incentives 2025

Incentives	Will be followed in
Optimisation économique de l'utilisation des produits d'équilibrage par Elia	WG Energy Solutions
Analyse de la faisabilité de la reconstitution du système, en tenant compte de l'évolution du mix énergétique	WG Grid
Monitoring de la qualité du CRI	WG Grid
Gestion et diffusion des connaissances	WG Energy Solutions
Etude portant sur le processus de préqualification et les exigences de mesure et de communication pour les unités à basse tension aux services d'équilibrage et les évolutions possibles pour simplifier la participation de ces unités	WG Energy Solutions
BSP settlement and invoicing process	WG Energy Solutions
Mise en oeuvre de la data roadmap pour l'amélioration de la mise à disposition de données par Elia	WG Energy Solutions
Incitant à la promotion de la liquidité sur les marchés d'équilibrage aFRR	WG Energy Solutions

Flex Product - FCR

CURRENT SITUATION

All voltage levels can participate to FCR.

Connection with EU platform for capacity is in place.

	HV	MV	LV
Access	☑	☑	☑
EU connection for capacity (RL)		☑	

WORKING PLAN 2025 – TARGET GO LIVE

2 phases of design evolution are foreseen:
- Phase I: compliance with regional rules to improve system security
- Phase II: facilitation of participation

In complement ELIA will also work on the BSP faster settlement (see here after)

Q1'25

Q2'25

Phase I: Additional properties – reserve mode & frequency measurements in case of system split

Q3'25

Q4'25

Phase II (end 2025): migration of RT communication towards Flexhub, change to 4s data granularity, alignment with aFRR baseline methodology, continuous monitoring & activation control, combo and migration from BMAP to BIPLE

HV = high voltage, MV = medium voltage, LV = low voltage

Flex Product - aFRR

CURRENT SITUATION

All voltage levels can participate to the aFRR products and connection with EU platform is in place for energy bidding & activation.

At this stage aFRR only allows for opt-out / pass-through in terms of ToE model.

	HV	MV	LV
Access	☑	☑	☑
Opt-out/pass-through	☑	☑	☑
ToE CSM	◎	◎	
ToE CM	◎		
EU connection for energy (PICASSO)	☑		

WORKING PLAN 2025 – TARGET GO LIVE

Transfer of Energy, facilitating independent aggregation (respecting the roles for both the supplier/BRP and BSP):
- In place for high voltage (CSM & CM) & medium voltage (CSM)
- POC on low voltage with CSM available by begin '26

In complement ELIA will also work on the rewrite of the auction tool and on the BSP faster settlement (see here after)

- Q1'25 — Settlement based on PICASSO Data portal
- Q2'25
- Q3'25 — ToE CM & CSM HV + ToE CSM MV
- Q4'25 — POC ToE CSM LV

HV = high voltage, MV = medium voltage, LV = low voltage
ToE = transfer of energy
CSM = central settlement model (aggregated correction); CM = corrected model (individual correction), CM Initially only for Elia HV

Flex Product - mFRR

CURRENT SITUATION

High voltage & medium voltage can participate to mFRR and transfer of energy is in place.

Local implementation is in place to allow connection with EU platform.

	HV	MV	LV
Access	☑	☑	◎
Opt-out /pass-through	☑	☑	◎
ToE CSM	☑	☑	◎
ToE CM	◎		
EU connection for energy (MARI)	◎		

WORKING PLAN 2025 – TARGET GO LIVE

The connection to the EU platform for bidding and activation of energy (**MARI**) will be in place.

Transfer of Energy Corrected Model will be possible for high voltage.
The market will be fully opened for mFRR, including the CSM for transfer of energy on headmeter.

In complement ELIA will also work on the rewrite of the auction tool and on the BSP faster settlement (see here after)

- Q1'25 — MARI connection
- Q2'25
- Q3'25 — ToE CM HV
- Q4'25 — access LV to mFRR + ToE CSM on headmeter

HV = high voltage, MV = medium voltage, LV = low voltage
ToE = transfer of energy
CSM = central settlement model (aggregated correction); CM = corrected model (individual correction), CM Initially only for Elia HV

Flex Product – implicit balancing

CURRENT SITUATION

During the year a parallel run on imbalance price forecast was performed as a first step in the evolution towards real-time price.

POCs on HV for supply split were installed.

	HV	MV	LV
Price Signal	1 min imbalance price + Parallel run imbalance price forecast Sept-Nov'24		
Supply split	POC		

WORKING PLAN 2025

Supply split, allowing different assets behind the meter with different BRP's/suppliers will be available for high-voltage connections.

After evaluation of MARI/PICASSO connection, it is foreseen to publish again an imbalance price forecast.

- Q1'25
- Q2'25 — Supply split HV
- Q3'25 — Imbalance price forecast after MARI/PICASSO
- Q4'25

BRP

CURRENT SITUATION on EPIC

- Onboarding
- Contract management
- Financial guarantee management
- DA/ID nominations
- Settlement

WORKING PLAN 2025 – TARGET GO LIVE

The key focus will be **on settlement and financial guarantee** based on follow-up of the CREG incentive and VAT/legal obligations.

Q1'25	
Q2'25	BRP self-billing + impact BRP technical activation + evolution in management external inconsistencies
Q3'25	Faster settlement, including financial guarantee management via EPIC + lifting BRP contract
Q4'25	From e-invoicing to authenticated invoices through Peppol

WORKING PLAN 2025 – WE ARE ALSO WORKING ON

Additionally, further development is foreseen in **contracting, onboarding & settlement**.

NOW	NEXT	LATER
Match making through flex awareness platform watt's happening	Settlement – BRP imbalance overview	Settlement – Metering – Energy share
	Onboarding – BRP registration new companies	
	Contract - BRP perimeter overview improvements	

BSP

CURRENT SITUATION on EPIC

The first steps in digitalization of the BSP interactions through EPIC still need to be taken.

- Onboarding
- Structural operation
- Daily operation
- Control
- Settlement

WORKING PLAN 2025 – TARGET GO LIVE

The key focus will be on **settlement** based on follow-up CREG incentive.

- Q1'25
- Q2'25
- Q3'25
- Q4'25 — BSP faster settlement — From e-invoicing to authenticated invoices through Peppol

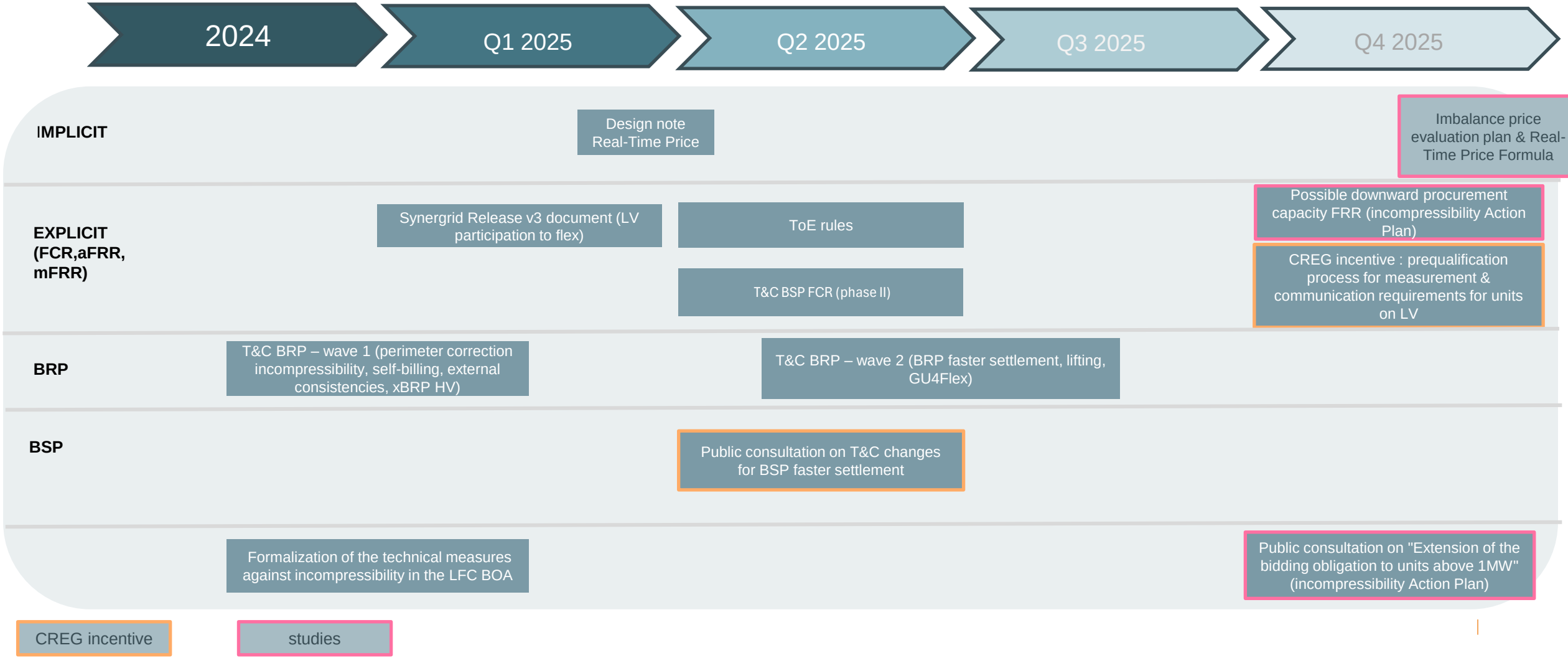
WORKING PLAN 2025 – WE ARE ALSO WORKING ON

The key focus will be on **the first steps in structural operation**

NOW	NEXT	LATER
Structural – contract management	Structural – pool management	
Match making through flex awareness platform watt's happening	Structural - contacts	

CREG incentive

Overview public consultations/studies 2025



AOB – Next WG Balancing

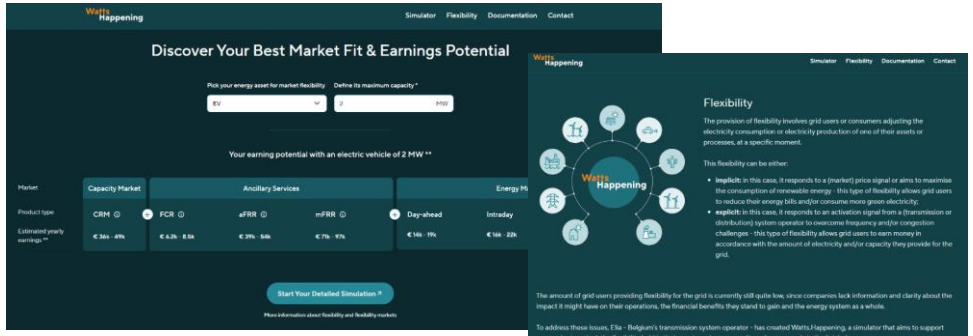
Thomas Van der Vorst

Watts.happening – update announcement

Charles Levecq

Watts.happening, informing you on the value of the potential flexibility in your assets and processes

[Watts.happening - Monetise your power portfolio]



- **Better understand what is flexibility**
- **The different products offered by Elia to valorize this flexibility**
- **Estimate the value of the potential flexibility**
- **Get to know potential partners**

1300+ visitors since 2023 (200 in past 30d)

4000+ Session since 2023 (460 in past 30d)

2024

- Market value simulation for CRM, FCR, aFrr, mFrr and **now also Day ahead, intraday and imbalances** markets
- **Updated calculation period**: May 2023 to April 2024
- Improved experience with among others:
  - A **quick estimation tool**, providing average values for each asset type
  - A more **user friendly simulation tool**

2025

- **Thematic (asset specific) case studies** of companies discovering and unlocking and leveraging the value of their flexibility
- **Improved matching** of Flex owners with Flex valorizers (BSP/BRP) and flex unlockers (aggregators, ESPs, etc.)
- **EV Flexibility** content to help the growing sector live to its potential
- **Support and engagement** campaigns to raise awareness and knowledge of the market

Launch public consultation – Formalization of the technical measures in the LFC BOA

Arnaud Debray

Modifications in the LFC BOA

- **Formalize the technical measure**
  - Clarified in article 7.3 that Elia can request setpoints changes including to units connected to a public distribution grid (through the DSOs) to regulate an enduring high FRCE
  - Clarified that this measure will be used after depletion of other means
- **Detail the activation criteria**
  - Clarification of the triggers
    - Based on the FRCE (ACE), conform to the SOGL
    - Frequency trigger is not needed in the LFC BOA
- **Describe the reporting requirements**
  - Paragraph added in existing section 8 stating that Elia will include the volumes activated per DSO in the reporting
- **Describe a temporary cost-based compensation from Elia to the DSOs to cover associated costs**

The consultation will be launched on Wednesday 18/12

2025 WG Energy Solutions

- **Dates for 2025 confirmed:**
  - Thursday 06/02/2025 09:00 – 17:00
  - Friday 04/04/2025 09:00 – 17:00
  - Thursday 19/06/2025 09:00 – 17:00
  - Thursday 25/09/2025 09:00 – 17:00
  - Thursday 13/11/2025 09:00 – 17:00
  - Thursday 18/12/2025 09:00 – 17:00