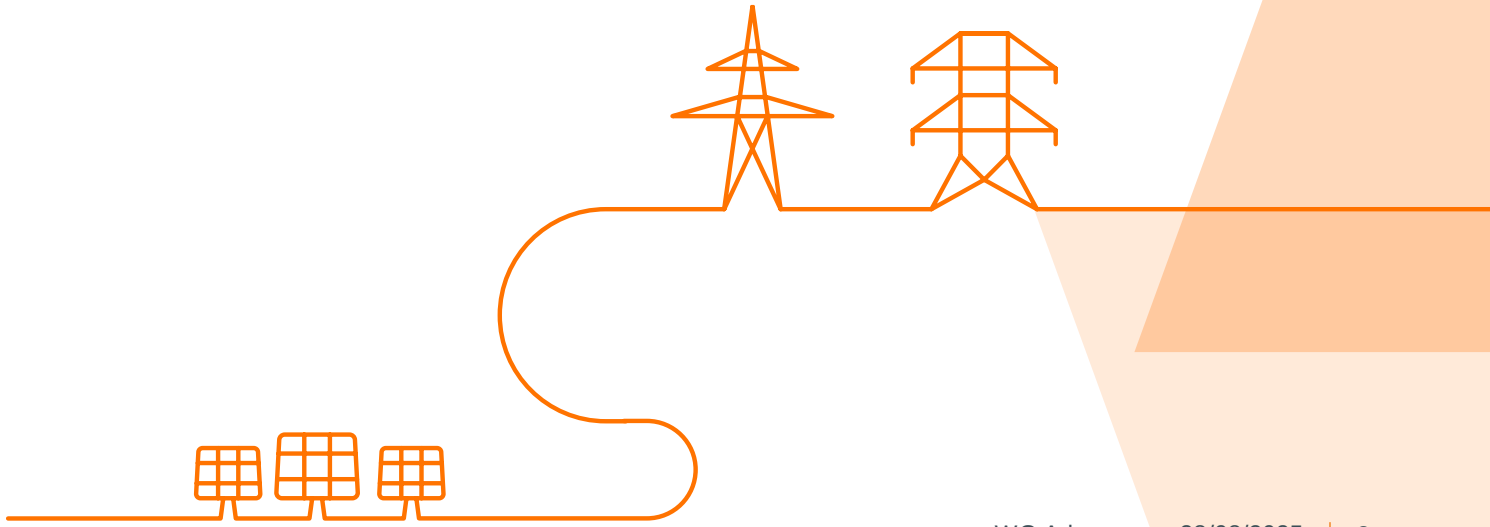
WG Adequacy #41

28/08/2025

Agenda

- Welcome
- Validation Meeting Minutes
- Design Changes
- Update on start delivery period
- UK assumptions
- Market Response Volume – preliminary results
- AOB & Next meetings



Welcome

Validation meeting minutes

Validation Meeting Minutes

Validation Meeting minutes WG Adequacy 40 (20/06/2025)

- No comments were received

Design Changes

Timeline for CRM FR v6

WG 28/08
- Financial Securities
- Predelivery Monitoring

WG 13/10
- PQ
- AMPBO
- Net balancing rev.

WG 21/11
- Auction results
- Minor changes to the FR

WG 19/12
- Calibration results

Jan 2026:
- consultation report

Feb 2026
- Elia submission FR v6

Public consultation 21/11 – 05/01

- Elia expects to propose minor changes to the CRM FRv6. Focusing om implementation REX & simplification.
- A broader REX on the design will be organized with market parties early 2026 after the delivery of the first MDARs

Application of CRM FRv5 to the 2025 auction

In the CRM FRv5 several provision are listed subject to the evolution of the regulatory framework (mainly RD methodology)

1. the exemption from the Payback Obligation for energy storage facilities (section 12.2); and ✓
2. the removal of the possibility for thermal generation facilities without Daily Schedule to submit a Declared Market Price (section 12.3.1.2); and ✗
3. the removal of the partial exemption of the Payback Obligation for Non-daily Schedule CMUs in the context of a partial activation (section 12.3.1.3). ✗

The RD Methodology was only amended in time for the exemption for energy storage, the other elements remain in force.

Financial Securities

Transfer of FS between Capacity Providers

	As-is	To-be
Process	No process currently exists for transferring Financial Securities	A new process is being introduced to allow the transfer of FS in case of Capacity Contract transfer between Capacity Providers
Description	When a Capacity Contract is transferred to another Capacity Provider, the entire FS submission process must be restarted	If the transferee demonstrates to ELIA that the FS originally provided by the transferor: - Has been validly **transferred to the transferee at the bank level**; and - **Continues to cover the transferred CMU**(s), ensuring that the FS equals (at least) the Secured Amount.

- **While** Capacity Providers are **transferring their Capacity Contract**, they can also have an arrangement at the bank level in order to transfer their Financial Securities
- To cover such case, ELIA adds a new process in the Functioning Rules to:
  - Simplify the operational procedures;
  - Reduce administrative burden;
  - Ensure continuity of compliance

Replacement of Cash Payments

Cash payments are a type of Financial Security, bound to be replaced six months after the payment

Currently

- As per § 825 of the FR v5, if it isn't replaced after six months, the Capacity Provider can bring arguments to extend the validity of the cash payment:
- The process doesn't involve a specific end-point, and thus may be repeated *indefinitely* to keep the cash payment

Proposal

- Bring clarity to the rule and limit in time the extension of the cash payment to 1 year:
- After six months, the Capacity Provider can still bring arguments to extend the validity
- Nonetheless, this process can be used **once**, bounding thus the Capacity Provider to effectively replace the cash payment within twelve months after the initial payment

Pre-delivery Monitoring

Clarification of delay in Quarterly Report

Context

Clarification of delay to be identified by the Capacity Provider in its Quarterly Report.

Currently, there is unclarity of what truly constitutes a delay.

To-be (Section 8.3.4 § 415)

*"A delay is identified by the Capacity Provider in his quarterly report when **all of the following conditions are met**:*

- *it concerns a Project Works or an Infrastructure Works; and*
- *it concerns a volume higher or equal to one 1 MW derated; and*
- *it leads to an Unavailable Capacity for at least two months, starting from the first day of the Delivery Period."*

ELIA’s additional request on a Quarterly Report

Context

The timing of ELIA’s request for any additional information on a Quarterly Report is linked to the submission of the QR itself & not the QR submission deadline. To standardize operational procedures, the timing for ELIA’s request will be linked to the QR submission deadline and not the QR submission date.

To-be (Section 8.3.4 § 419)

“[…] Such request is sent by ELIA via the CRM IT Interface within twenty Working Days following ***the*** *submission* ***deadline*** *of the quarterly report and is handled by the Capacity Provider within a period of twenty Working Days starting from ELIA’s request. […]”*

Timing ELIA's reminder for late Permit & Quarterly Report

Context

ELIA is bound to send a reminder to the Capacity Provider if the Permit Report **or** the Quarterly Report has not been submitted by its deadline. To this purpose, ELIA shall not wait for 3 WDs to send such reminder but will do on the deadline itself.

To-be (Section 8.3.4 § 420)

"In the event that ELIA did not receive a quarterly report within the time period defined in § 409, ELIA sends a reminder to the Capacity Provider via the CRM IT Interface ***on the expiry date of the concerned deadline****. The Capacity Provider then sends the quarterly report to ELIA within a period of seven Working Days from the aforementioned reminder."*

→ *Similar changes to Section 8.3.3 § 408 for the Permit Report*

Timing for Quarterly Report penalties

Context

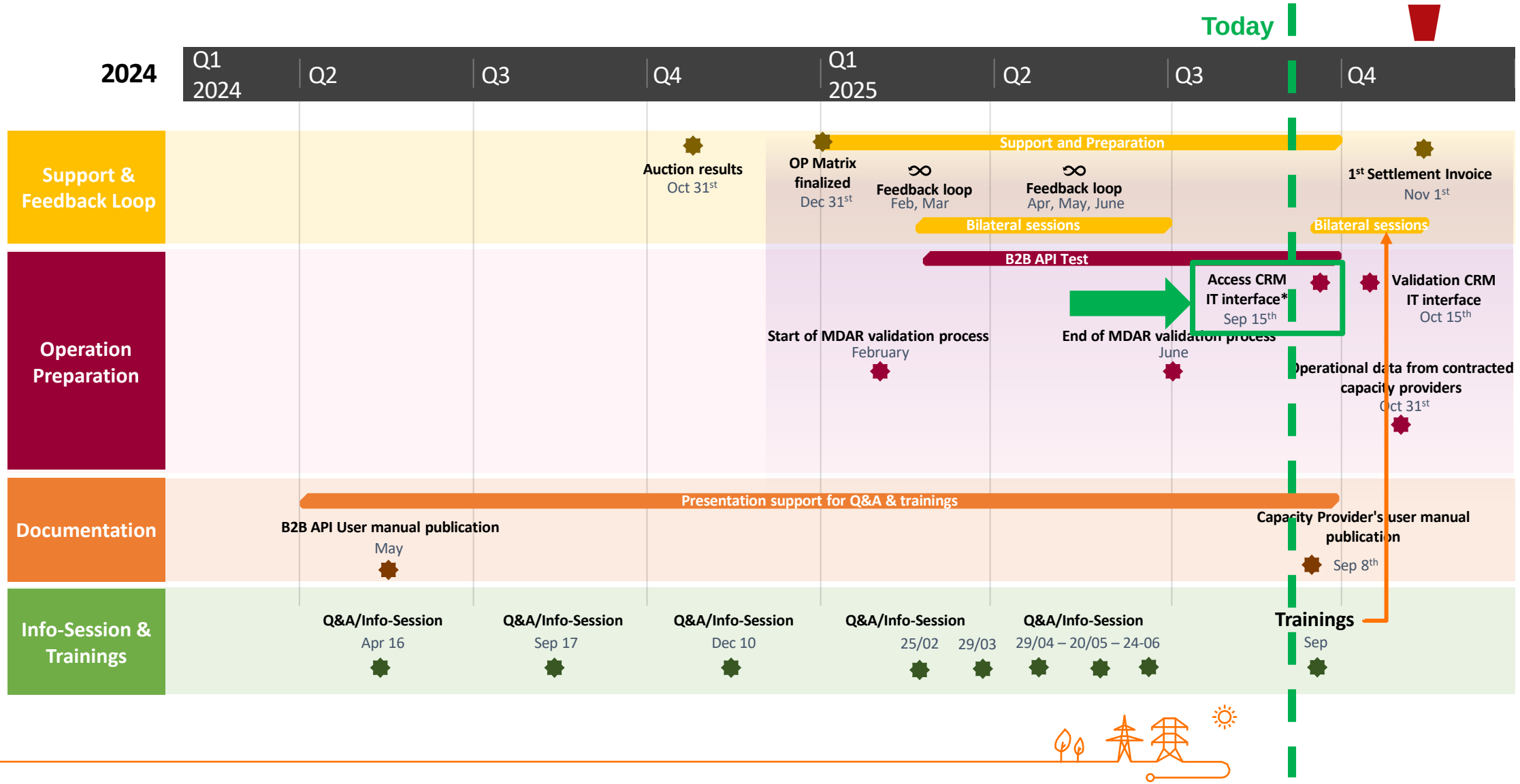
A Capacity Provider is bound to pay the penalties due to non-submission of its Quarterly Report by the next applicable moment of control. Specification is needed regarding when to pay if there is no longer a remaining moment of control applicable to the capacity.

To-be (Section 8.3.4 § 424)

*"Penalties that are determined following §§ 419 and 420 are to be paid at the first moment of control following the **period** for which the quarterly report was due. They are included in the pre-delivery activity report as per section 8.4.4. **In the event that there is no longer a remaining moment of control, the penalties are to be paid within 10 Working Days after the submission deadline of the late quarterly report**."*

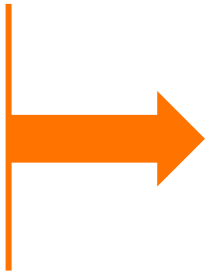
Update on start delivery period

AMPBO Operational Readiness Timeline – Status Update



First Go-Live Linked to Availability Monitoring & Payback Obligation is Approaching

- **Go-Live Date: 15/09/2025**
- **Scope that will be live**
  - NEMO Selection
  - Price Declaration
  - RMC Declaration



The new module will be directly available from ADEMAR platform Home screen using the button “Availability & Payback Obligation”

- **Documentation**
  - The user manual will be published on elia.be on 08/09/2025
- **Training**
  - Starting from 15/09 a second round of Bilateral Sessions will be organized
  - Trainings will be given during the Bilateral Sessions
- **Support**
  - In case of question or need for support: operations.crm@elia.be or customer.crm@elia.be

UK Assumptions

Update of UK data based on Future Energy Scenarios 2025

- **Elia (WG June 2025)**: Proposes including any new national announcements in the reference scenario before the Minister's decision

- **FES (July 2025)**: Published updated assumptions

- **Proposed Scenario**: *10-Year Forecast*
  - Used by **National Grid** for security of supply planning
  - Reflects current view of the next decade, including project pipelines and policy actions

Market Response Volume study 2025

Preliminary results

Market Response Volume (MRV) – Reminder

What is “Market Response Volume” in the context of this project?

What is Market Response?

- ✔ **Demand Shedding**: Load that is reduced when electricity prices reach a certain level. It can include behind-the-meter generation and/or storage.
- ✔ **Demand Shifting**: Load that is reduced at a specific period when electricity prices reach a certain level and recovered before or after.

Spatio-temporal focus

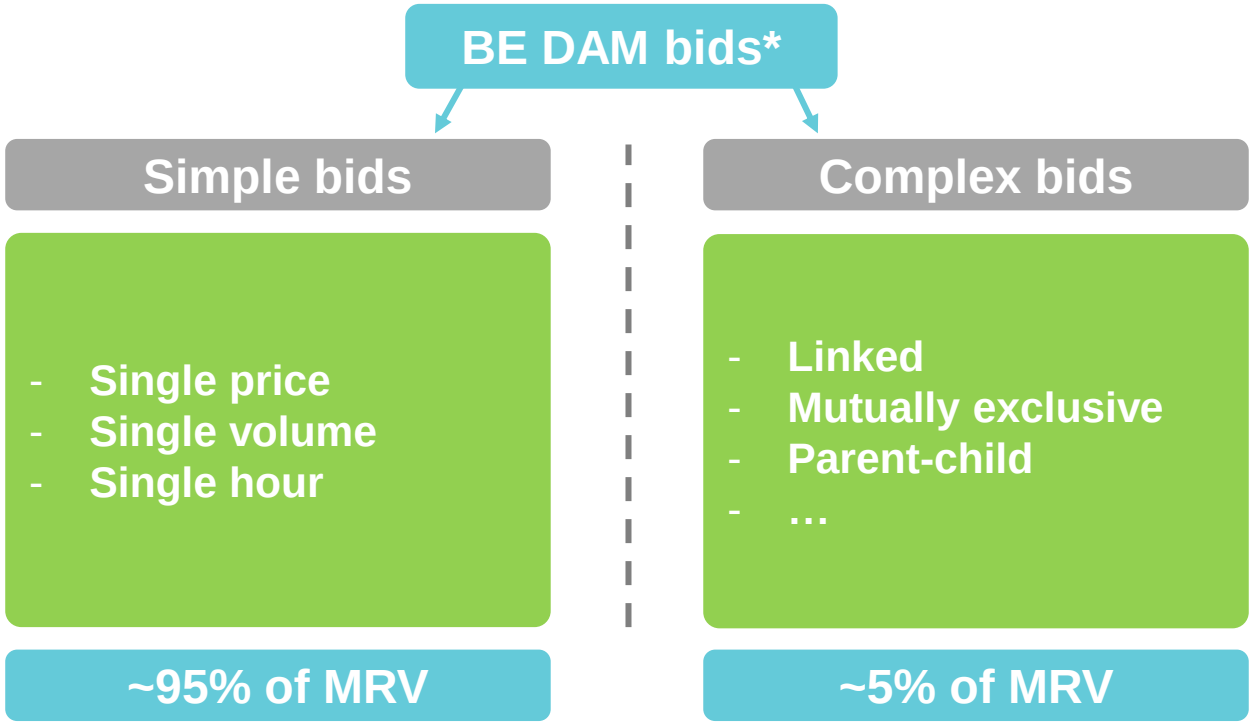
- **Existing volumes**, rather than projections of flexibility that may become available in the future
- **Expressed via bids** in the **Day-Ahead Auction**
- **BE** Bidding Zone
- **Winter:** from 1st November to 31st March
- **Peak hours:** from 8 am to 7:59 pm
- **Weekdays**: no weekends or bank holidays

What is not Market Response?

- ✘ **Demand destruction**: consumers permanently change their behavior following a period of high prices or restricted supply causes.
- ✘ **Centralized generation or storage**, as identified using N-SIDE’s methodology, detailed in the following slides.

Market Response Volume (MRV) study – 2025 update

- Both simple and complex bids are clustered into groups with similar bidding behavior
- For each cluster we evaluate whether the bidding behavior relates to MRV or not



***Focus of 2024**: Develop bidding pattern technique for low price bids*

***Focus of 2025**: Improve MRV clustering techniques for simple bids*

***Focus of 2024**: MRV from complex bids*

*Result: complex clusters represent **~3-5%** of total MRV volume*

*both buy and sell bids are included in the analysis

Bid clustering

New clustering approach for bid filtering, alternative to *just* a static or dynamic price

Identify pre-defined clusters

Bids at max-price, negative priced bids...

Perform unsupervised clustering

Using k-means algorithm powered by features coming from the bids themselves (e.g. price, volume, profile) and commodities (gas, CO2)

Identify and validate unsupervised clusters

Define well-identified and sound rules that generate a cluster

Classify: Three type of clusters

✅ MRV,
❌ Not MRV,
❓ Undefined

More iterations → less volume of undefined bids → less uncertainty on the results

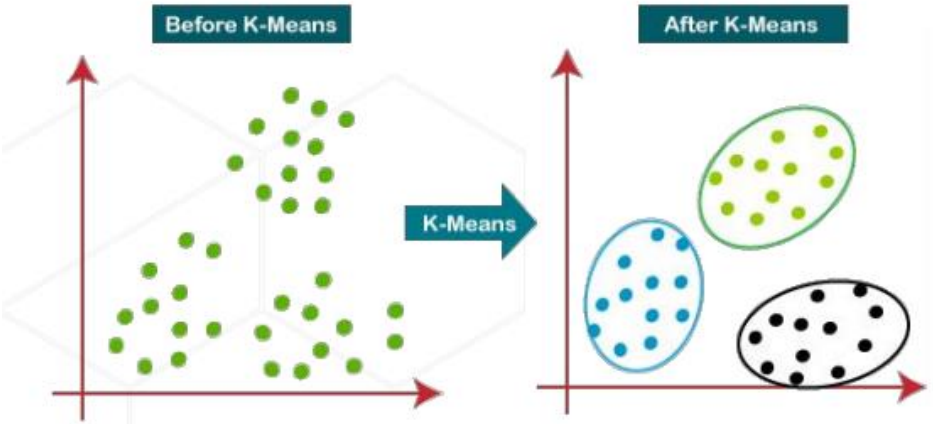


Figure extracted from kaggle

The introduction of k-means allows us to identify a set of bids, within the same bid type (single, exclusive blocks…), that have a similar behaviour (either price, profile, volume…) without dropping information when collapsing to simple bids.

We transform the bid information into features, and the features create the clusters.

Based on our analysis, we categorize the clusters into MRV or not.

For the undefined bids, we collapse and apply the dynamic price filter

Methodology – clustering complex bids

In the 2024 study, attention lied on the clustering of complex bids, the figure below gives an example of a complex bid cluster:

Exclusive Block Bid: Complex Ramping Varying Volume

Cluster formal description

Blocks with multi-hour profiles, ramping and do not have a static output when the maximum output is reached. They offer many different schedules

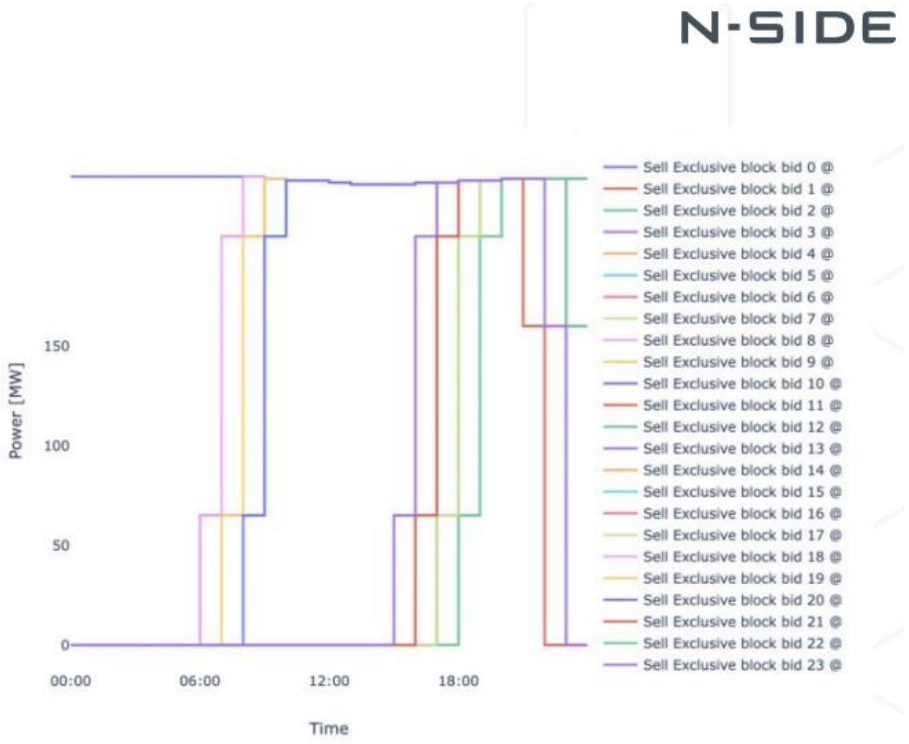
Are these bids MRV?

Price:
- Generally around standard gas-fired asset.

Volume:
- Usually used for medium/large volumes

Others:
- Shape resembles to asset or portfolio management - obvious candidates are thermal assets.

Conclusion:
- **Not MRV**



Methodology – clustering simple bids using a pattern approach

Simple Bid: Fixed Price Pattern

Cluster formal description

Single bids between 50 EUR/MWh and the marginal cost of a 30% efficient OCGT, with repetitive patterns.
The patterns can be either single volumes, or combine volumes that have an additive relationship or are multiples of each other. What is important to matching multiple volumes is that the bids do not overlap.

Are these bids MRV?

Price:

- Fixed price over prolonged period indicates that the bid don't have variable priced commodities. → Could be MRV

Volume:

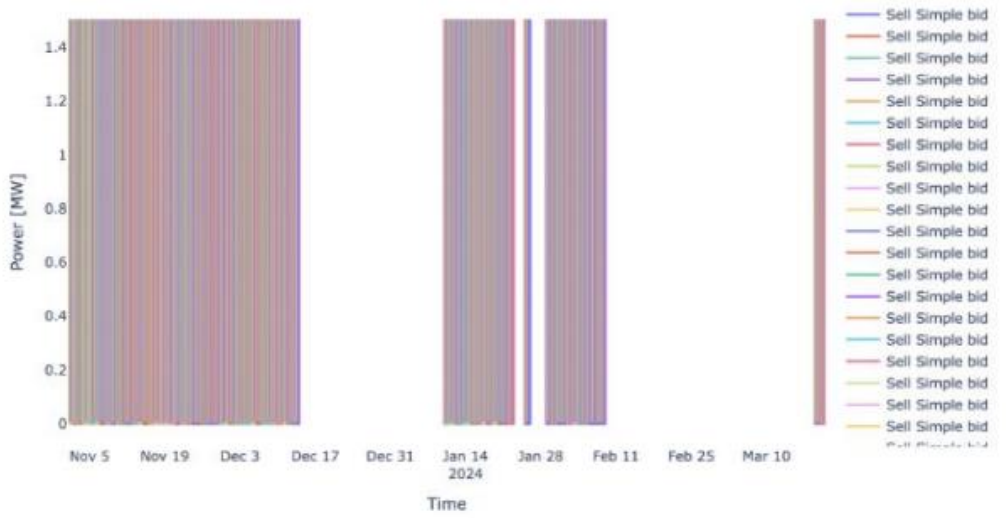
- We filter out bids below 150 MW

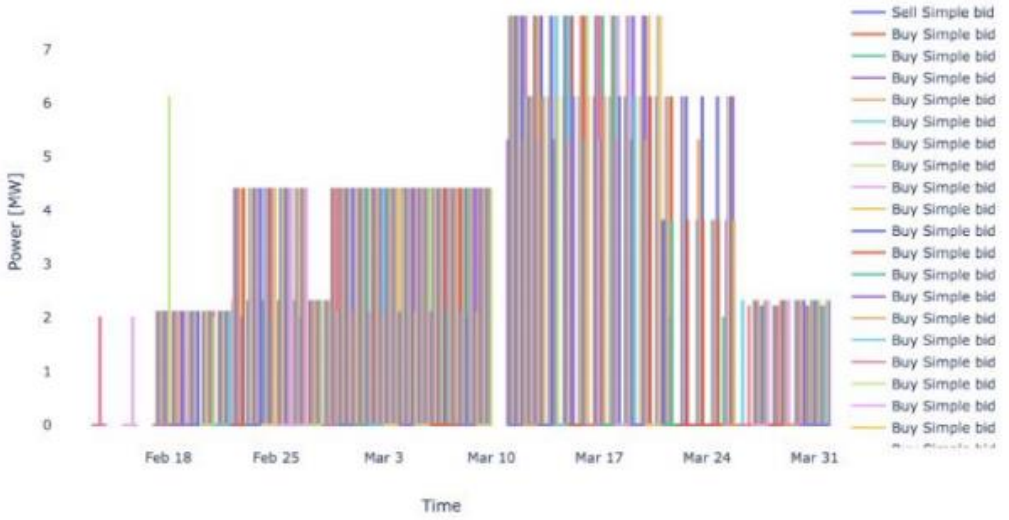
Others:

- Patterns observed in these bids suggest that these bids are not influenced by commodity prices yet still can react to market prices

Conclusion:

- **Is MRV**





Methodology – clustering simple bids

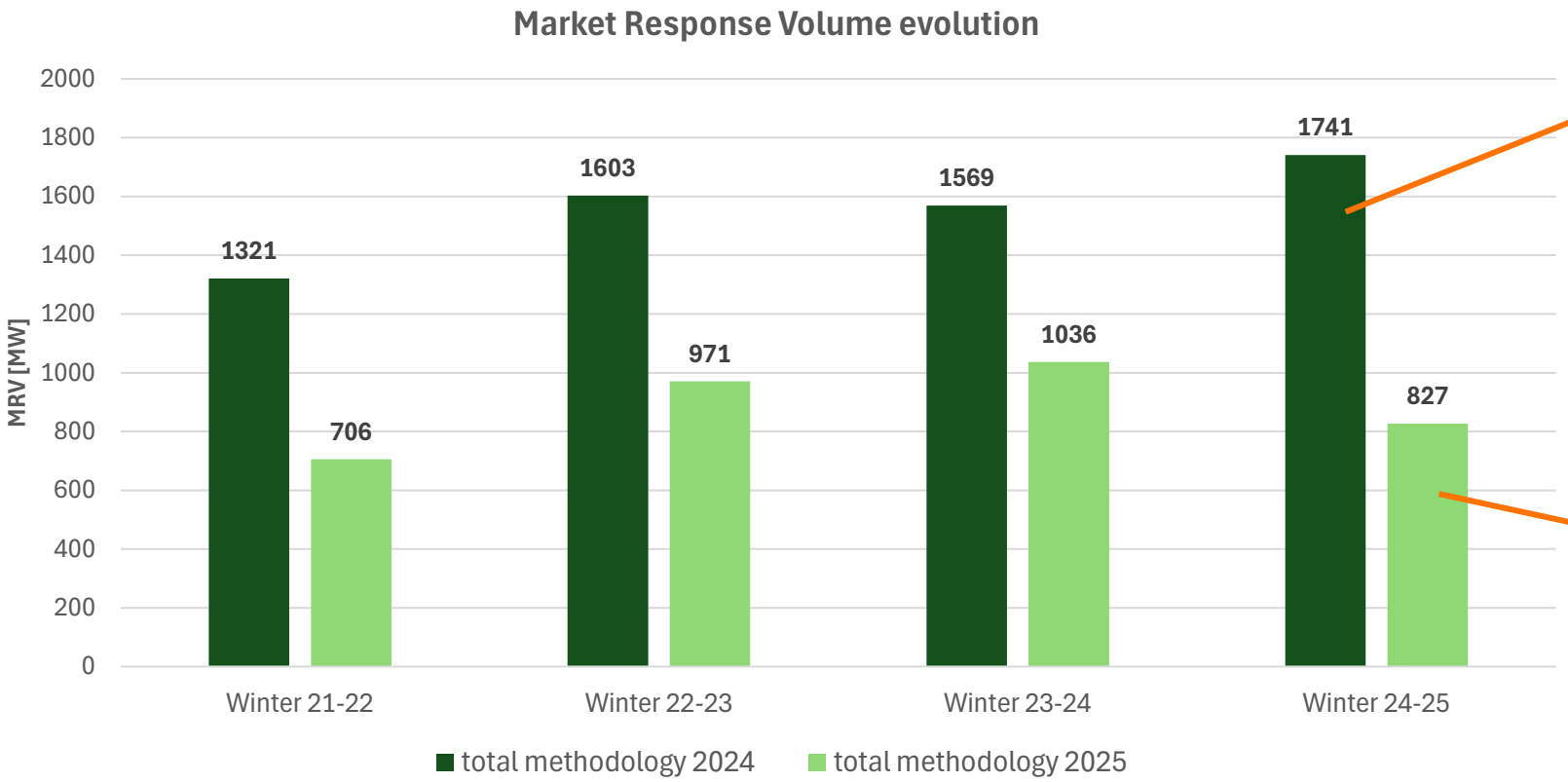
For simple bids, the bid clustering technique was initially only able to split the simple bids into three large clusters:

Simple bids	2024	2025
price > MC OCGT	All bids priced above the marginal cost of an OCGT are automatically classified as being MRV ➢ **MRV sensitive to gas price!**	**2025 update**: Pattern methodology applied to bids price above OCGT MC
0 < price < MC OCGT	**2024 update**: Development of a pattern methodology: bid appearing in a regular pattern are still classified as being MRV	Pattern methodology applied to bids between 0 Eur/MWh and OCGT MC
price < 0 & Price = 4000 (max price)	All bids priced below 0 Eur/MWh are not MRV All bids priced at the maximum price are not MRV	

Results – MRV total

PRELIMINARY RESULTS

The resulting MRV based on the updated 2025 methodology is presented below:



2024 methodology: automatically classifies all high price bids as MRV

→ **DSR Upper bound**

2025 methodology: Only bids that fit DSR bidding behavior are classified as such

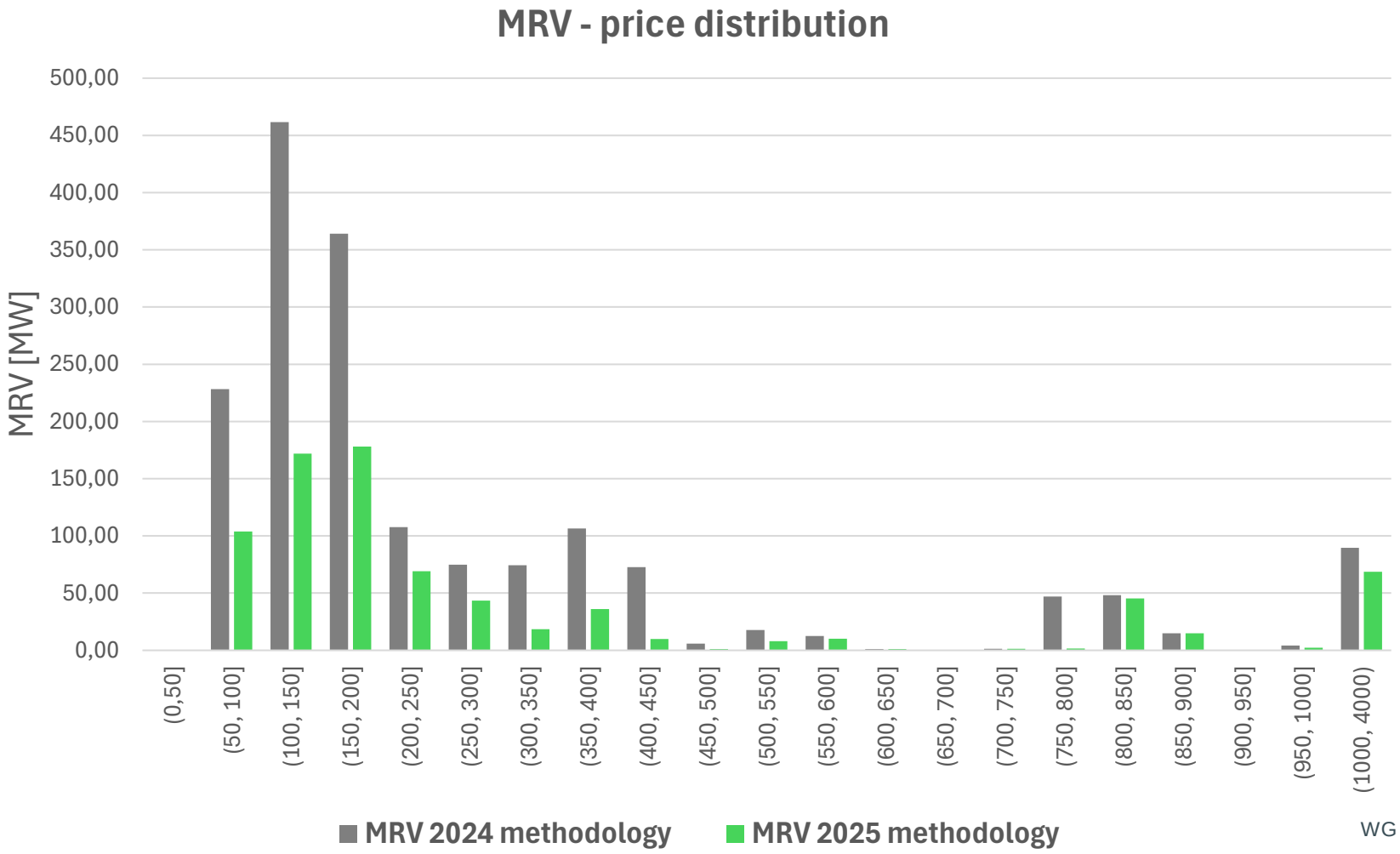
→ **DSR lower bound**

- The updated 2025 methodology applies more refined criteria to identify potential DSM bids
- The pattern methodology is more restrictive but provides a lower bound value for a reliable DSR volume
- The true volume of DSR likely lies in between both methodologies, more work required to narrow the range

Results – MRV as a function of price

PRELIMINARY RESULTS

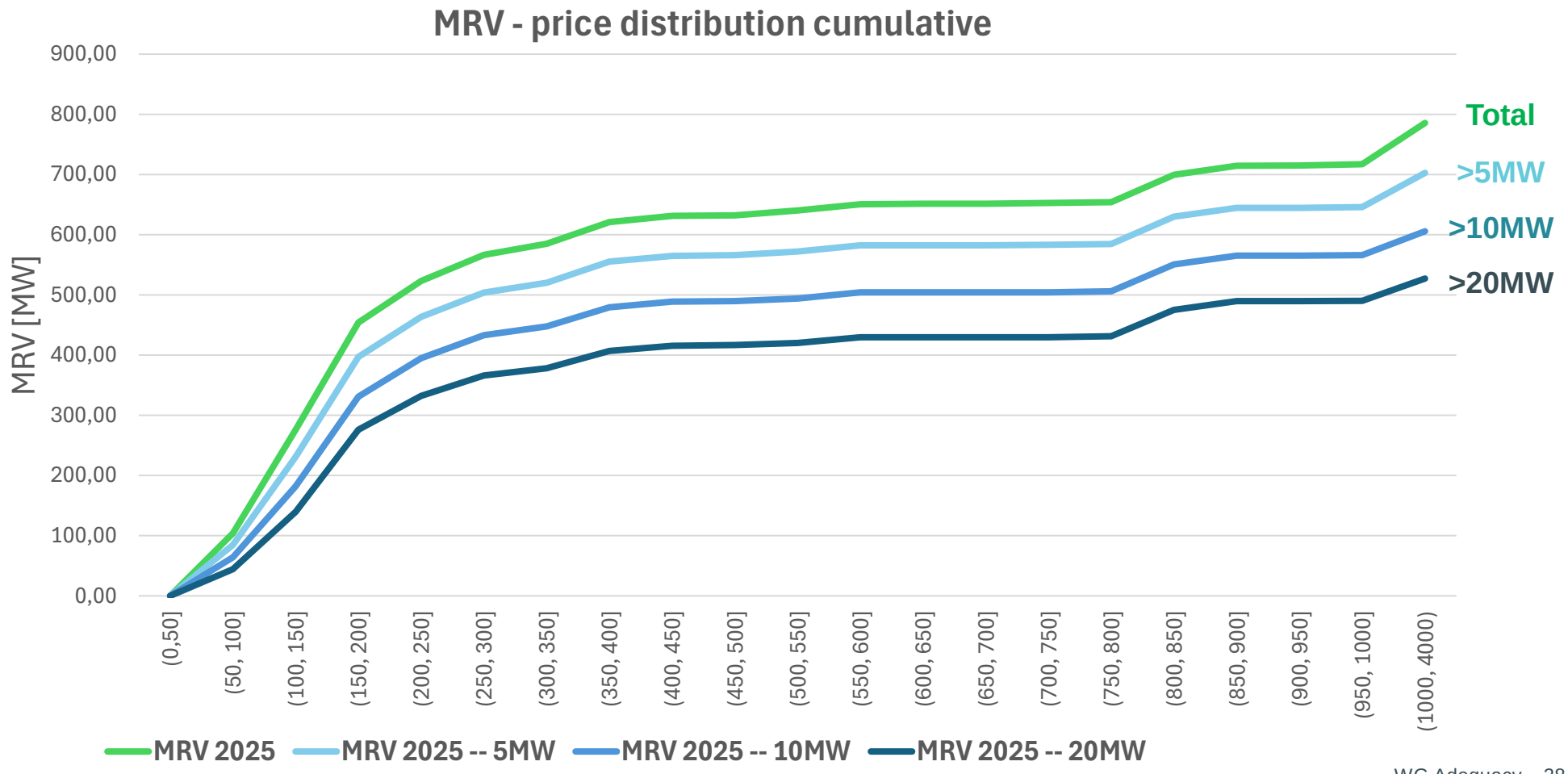
- The graph below demonstrates the distribution of the MRV according to price
- 80% of all MRV volumes are situated below a price of 400 Eur/MWh



Results – MRV as a function of volume

PRELIMINARY RESULTS

- The graph below demonstrates the distribution of MRV according to volume
- 90% of all bids contributing to the MRV are bids with a volume > 5MW, indicating that most MRV comes from DSR that is likely TSO-connected



AOB

Next meetings

Next meetings

- WG Adequacy #42 13/10/2025 (13:30-16:30)
- **NEW** WG 21/11 (13:30-16:30)
- WG Adequacy #44 19/12/2025 (13:30-16:30)

Thank you