MESC
Update on SDAC & SIDC

03 December 2025

MESC Update on SDAC & SIDC
Summary

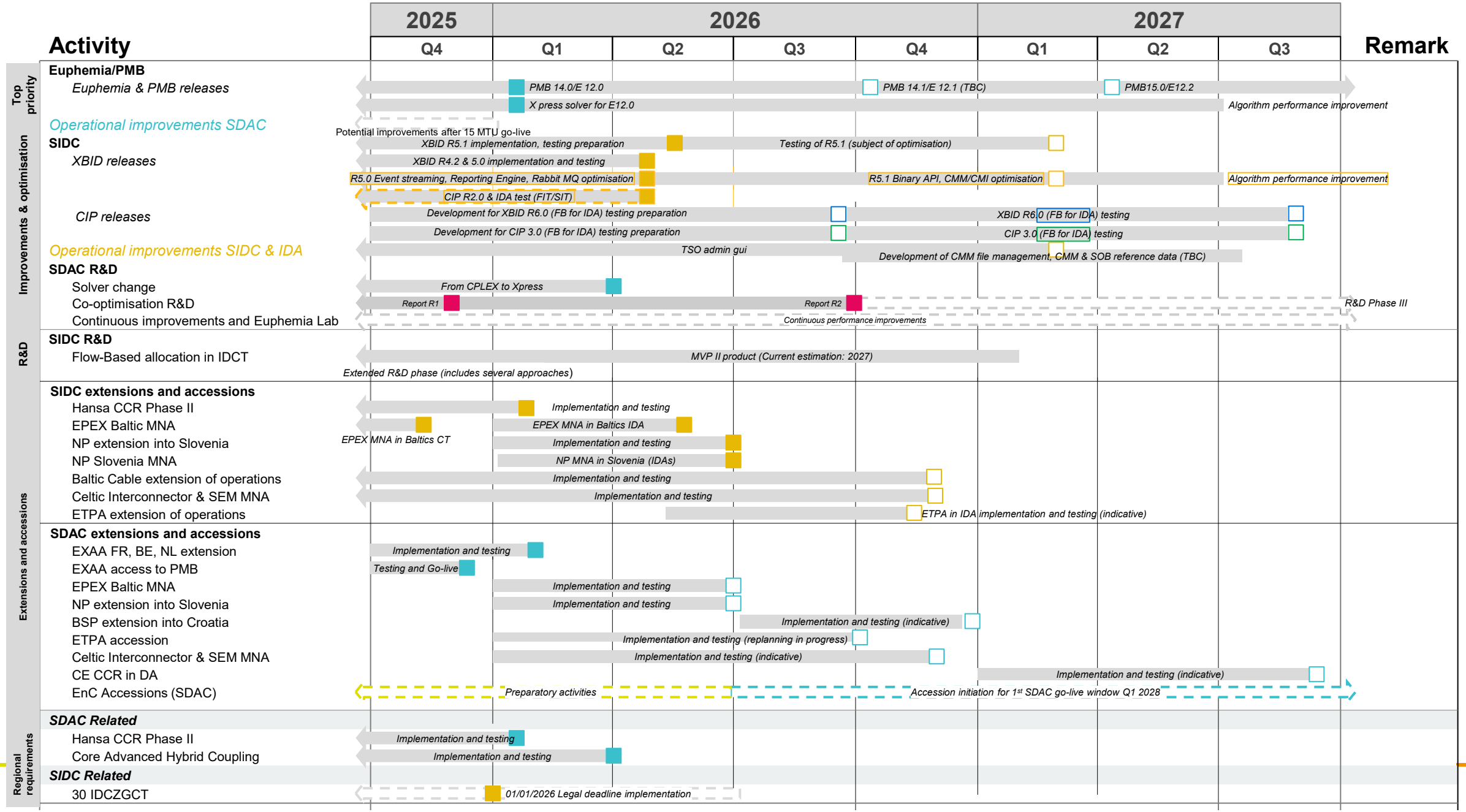
Main takeaways

- SDAC 15 min MTU: The change to 15'MTU in SDAC was **successfully implemented on trading day 30th of September** for delivery day 01st of October.
  - NEMOs and TSOs also confirmed that **rollback monitoring period ended on 06th October 2025.**

- Core Advanced Hybrid Coupling: Core **AHC integration test in the Core region is currently scheduled to start in the end of January 2026** (pending SDAC validation on other tests). All related activities are being organized following the current planning for test and go-live. The final validation of its feasibility will be concluded mid-January 2026.

- Flow-Based in IDAs: Information on regional capacity calculation processes is provided in figures on slides 33-34.
  - Regarding the status of FB for IDA implementation, design discussions with the IT provider have been completed, and the implementation to XBID has started.

SDAC-SIDC Roadmap and Key Projects



Recent Relevant Updates on SDAC Operational Incidents (1/2)

Updates and Points of Attention

- Since September 2025, SDAC Operational parties **have experienced one critical/major incident related to the DA market.**
- On **October 07, 2025,** during the Market Coupling session, the preliminary results were delayed by 1 hour. A message mentioning a Risk of Full Decoupling was sent to Market Parties, however, a few minutes later, all Final Confirmations were received in the PMB, completing the market coupling session.

- Relevant information about the issue:
  - **Issue Detected**: A NEMO was unable to integrate the results into their Local Trading System (LTS), and could not know if results were accepted or rejected.
  - **Root Cause**: The root cause of the incident is the occurrence of unexpected negative volumes/quantities, which were received by the Local Trading System (LTS) of one of the NEMOs from the algorithm/PMB. Therefore, the PMB results could not be integrated into the LTS and no portfolio allocation/results validation could be performed.
  - NEMOs needed time to verify that the issue with negative volumes would not have an impact on other markets using the same LTS or potentially any other market within SDAC.

Recent Relevant Updates on SDAC Operational Incidents (2/2)

- **Mitigation Measures**:
  - Short Term:
    - NEMOs have reached out to the algorithm service provider for clarification on unexpected occurrence of negative volumes.
    - The service provider has explained that although rare, negative volumes can occur as part of the optimization process, but within the designated tolerances set in the algorithm.
    - The affected NEMO has updated its LTS and is now able to integrate results with negative volumes, provided they are limited to a tolerance aligned with the algorithm.
    - Other NEMOs have double checked their LTS as well. Further joint testing is envisioned in the foreseeable future.
  - Long Term: procedural updates are being actively discussed, to ensure swift handling of rare/unexpected occurrences such as this one.

Recent Relevant Updates on SIDC Operational Incidents

Updates and Points of Attention

- Since 06/09, SIDC Operational parties have experienced **9 critical/major incidents related to the ID market**.

- The SIDC operational incidents included in this material are:
  - 2025-09-06 IDCT – Additional information on CT incident
  - 2025-09-08 IDA2 – Partial Decoupling in advance due to planned maintenance
  - 2025-09-08 IDA3 – Automatic Partial Decoupling due to the Order Book not being gathered in time
  - 2025-09-18 IDA3 – Automatic Partial Decoupling due to the Order Book not being gathered in time
  - 2025-10-04 IDA1 – Partial Decoupling in Advance due to planned maintenance
  - 2025-10-07 IDA1 – Partial Decoupling in Advance due to missing TSO information
  - 2025-10-14 IDA1 – Automatic Partial Decoupling due to missing TSO information
  - 2025-10-26 IDA1 – Partial Decoupling in Advance due to missing TSO information

  - One incident (31/10) is under investigation and further details will be presented in the next MESC/PCG meeting.

- **Published reports on the incidents can be found on the [ENTSO-E] and [NEMO Committee] websites.**

Main Bulletins – SIDC Status Updates

06/09 SIDC CT Incident

Updates and Points of Attention

- On **06th of September, 2025,** the XBID system experienced a total downtime of over 10 hours, including unscheduled downtime from 9:15 until 17:50, which temporarily affected system availability due to XBID service provider issues.
- Planned network maintenance was performed at the data center as part of an infrastructure upgrade; systems were successfully restarted afterward. Unexpected connectivity failures then emerged across key trading interfaces, preventing market participants from accessing the platform and triggering a market suspension.
- The root cause was later identified as a previously unknown firewall software bug, which disrupted network data availability - despite the maintenance itself completing successfully - and was solved during our routine Quarterly Maintenance for Q4.

- A preliminary press release was published on the [ENTSO-E] and [NEMO Committee] websites.
- MCSC NEMOs and TSOs created a Public Incident Report with details on the incident which may be found on [ENTSO-E] and [NEMO Committee] websites.

Recent Relevant Updates on SIDC Operational Incidents

2025-09-08 IDA2 – Partial Decoupling in Advance Due to Planned Maintenance

Updates and Points of Attention

- On **September 08, 2025,** a partial decoupling in advance of IDA2 (DD20250909) due to planned maintenance on the EPEX took place due to migration to the new trading platform.

- Relevant information about the issue:
  - **Issue Detected**: EPEX informed all parties in advance, so no issues were experienced during the IDA2 session.
  - **Root Cause**: EPEX performed the migration to the new trading platform.
  - **Resolution**: none.

Recent Relevant Updates on SIDC Operational Incidents

2025-09-08 IDA3 – Automatic Partial Decoupling Due to The Order Book Not Being Gathered In Time

Updates and Points of Attention

- On **September 08, 2025,** an Automatic Partial Decoupling of IDA3 (DD20250909) due to the Order Book not being **gathered in time** due to EPEX configuration issues.

- Relevant information about the issue:
  - **Issue Detected**: The Order Book file from EPEX didn't arrive at the Coordinator's PMB prior to the deadline (10:12).
  - **Root Cause**: Following the planned maintenance of EPEX auctions systems, a wrong configuration prevented the automated and correct functioning of some processes. Therefore, the order book could not be generated on time causing an Automatic Partial Decoupling of IDA 3. Consequently, the Automatic Partial Decoupling was triggered, decoupling all areas except Spain, Italy and Greece.

  - **Resolution**: The configuration was corrected right after the IDA3 Automatic Partial Decoupling, all further IDA sessions were successfully completed.

Recent Relevant Updates on SIDC Operational Incidents

2025-09-18 IDA3 – Automatic Partial Decoupling Due to The Order Book Not Being Gathered In Time

Updates and Points of Attention

- On **September 18, 2025,** an Automatic Partial Decoupling of IDA3 (DD20250918) due to the Order Book not being **gathered in time** took place. This prevented a full coupling across NEMOs and required isolation of the affected party to maintain system stability.

- Relevant information about the issue:
  - **Issue Detected**: EPEX informed all NEMOs about an issue regarding EPEX-IDA order book not being sent.
  - **Root Cause**: The EPEX system experienced performance issues due to a functional malfunction in certain processes that competed with each other, causing a significant degradation in system responsiveness
  - **Resolution**: EPEX has put a corrective measure in place at a technical level. No degradation of performance is expected anymore.

Recent Relevant Updates on SIDC Operational Incidents

2025-10-04 IDA1 – Partial Decoupling in Advance Due to Planned Maintenance

Updates and Points of Attention

- On **October 04, 2025,** a partial decoupling in advance of IDA1 (DD20251005) due to planned maintenance on OTE took place.

- Relevant information about the issue:
  - **Issue Detected**: OTE informed GME of an internal issue and requested potential early decoupling.
  - **Root Cause**: Internal technical failure at OTE prevented participation in the IDA1 session.
  - **Resolution**: Technical failure has been resolved.

Recent Relevant Updates on SIDC Operational Incidents

2025-10-07 IDA1 – Partial Decoupling in Advance Due to Missing TSO Information

Updates and Points of Attention

- On **October 07, 2025,** a partial decoupling in advance of IDA1 (DD20251008) due to delays in Red Eléctrica's security analysis subprocesses took place, impacting OMIE's participation.

- Relevant information about the issue:
  - **Issue Detected**: OMIE missed participation in IDA1 sessions because TSO security analysis results were not delivered on time by Red Eléctrica. This made it impossible to validate participation in IDA1 auctions, leading to partially decoupled in advance.
  - **Root Cause**: Due to a significant delay of the Day Ahead market results, there was not enough time for Red Eléctrica to finish their processes after day ahead prior to IDA1. These processes are required for OMIE to join IDA1.
  - **Mitigation Measures**:
    - Long Term: OPSCOM group is analyzing the possibility of updating the SIDC procedures, including measures to prevent this kind of situation from happening again.

Recent Relevant Updates on SIDC Operational Incidents

2025-10-14 IDA1 – Automatic Partial Decoupling Due to Missing TSO Information

Updates and Points of Attention

- On **October 14, 2025,** an **automatic partial decoupling** of IDA1 (DD20251015) took place due to delays in the day ahead market coupling results publication until 13:12. This delay reduced by 17 minutes the time available for Red Eléctrica to execute their internal processes between day ahead and IDA1. Because of this, Red Eléctrica finished their TSO security analysis 4 minutes after the deadline for Automatic Partial Decoupling and could not provide the mandatory **security analysis results** to OMIE, triggering decoupling events across almost all bidding zones and borders. Only **Italy and Greece** remained coupled.

- Relevant information about the issue:
  - **Issue Detected**: OMIE repeatedly missed participation in IDA1 sessions because TSO security analysis results were not delivered on time by Red Eléctrica. This made it impossible to validate participation in IDA1 auctions, leading to automatic partial decoupling.
  - **Root Cause**: Root Cause: Exceptionally long execution times or local IT anomalies in Red Eléctrica's processes after receiving Day-Ahead Delay of Day Ahead Market Results which significantly reduced the time for Red Eléctrica to execute their internal proceses.
  - **Mitigation Measures**:
    - Long Term: OPSCOM group is analyzing the possibility of updating the SIDC procedures, including measures to prevent this kind of situation from happening again.

Recent Relevant Updates on SIDC Operational Incidents

2025-10-26 IDA1 – Partial Decoupling in Advance Due to Missing TSO Information

Updates and Points of Attention

- On **October 26, 2025,** a partial decoupling in advance of IDA1 (DD20251027) took place due to delays in Red Eléctrica's security analysis subprocesses due to a local IT issue, impacting OMIE's participation.

- Relevant information about the issue:
  - **Issue Detected**: OMIE missed participation in IDA1 sessions because TSO security analysis results were not delivered on time by Red Eléctrica. This made it impossible to validate participation in IDA1 auctions and to reduce the impact on other parties, OMIE was decoupled in advance.
  - **Root Cause**: Delay in Red Eléctrica subprocesses required for OMIE to join IDA1.
  - **Mitigation Measures**:
    - Long Term: OPSCOM group is analyzing the possibility of updating the SIDC procedures, including measures to prevent this kind of situation from happening again.

SDAC

Main Bulletins – SDAC Status Updates

First Weeks of Operations After 15-Min MTU Go-Live

Background

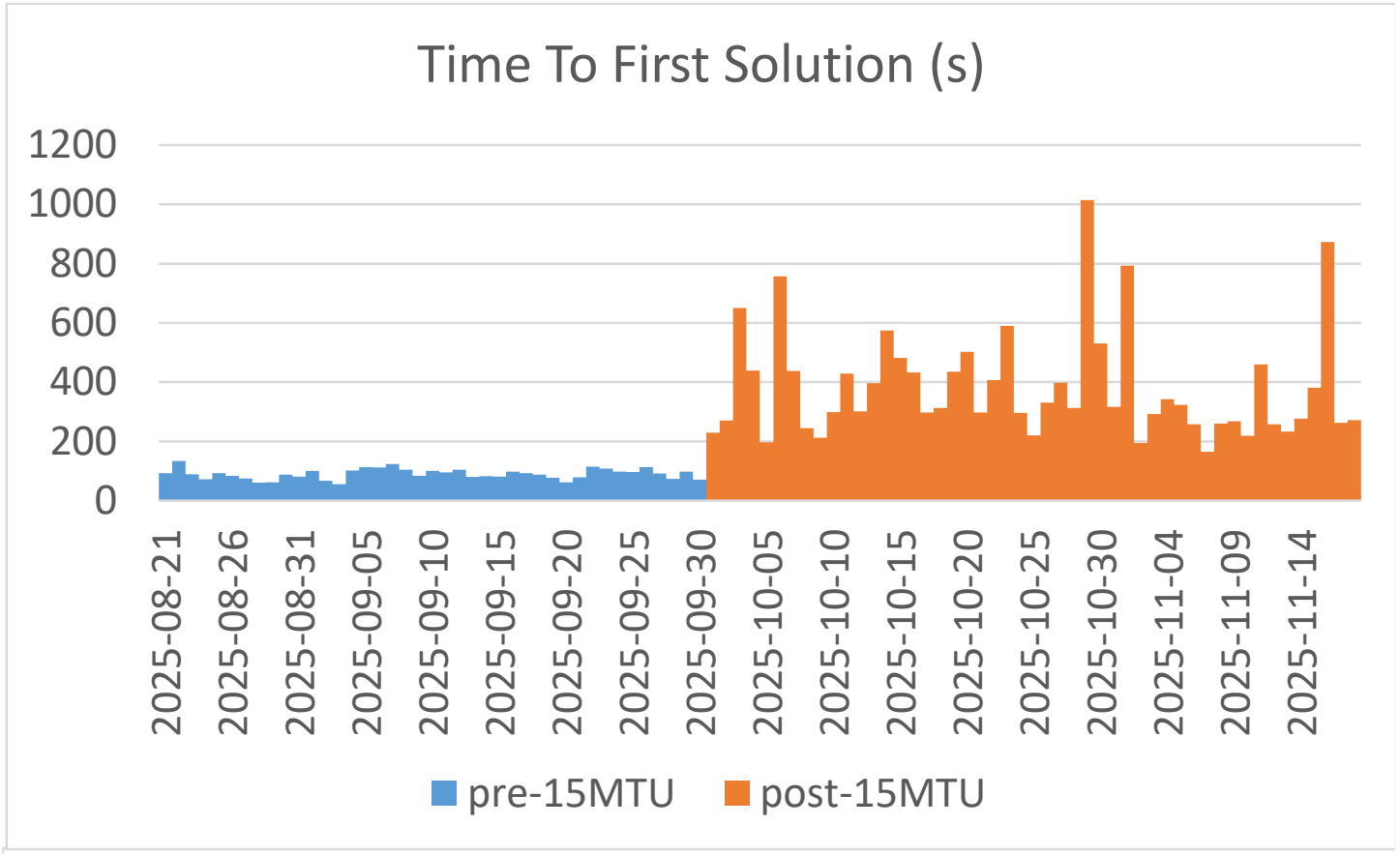
- On 01/10, NEMOs and TSOs confirmed that the **15 min MTU in SDAC was implemented across all European bidding zones and bidding zone borders** on trading day 30 September 2025 for delivery day 1 October 2025. The published press release can be found on [ENTSO-E] and [NC] websites. NEMOs and TSOs also confirmed that **rollback monitoring period successfully ended on 06 October 2025.**

Updates and points of attention

- Project parties are closely monitoring the stability and robustness of system performance and will continue to do so over the coming weeks of operations. Market participants will be promptly informed of any relevant developments.
- NEMOs and TSOs have collected data to assess the impact of the change on SDAC which will be presented in the following slides. The reporting period covers a 90-day period from 21 August 2025 (i.e. pre-15MTU go-live) until 18 November 2025.

Main Bulletins – SDAC Status Updates

Statistics on Algorithm in Last 90 Days: Time to First Solution



Operational calculation time of the SDAC algorithm:

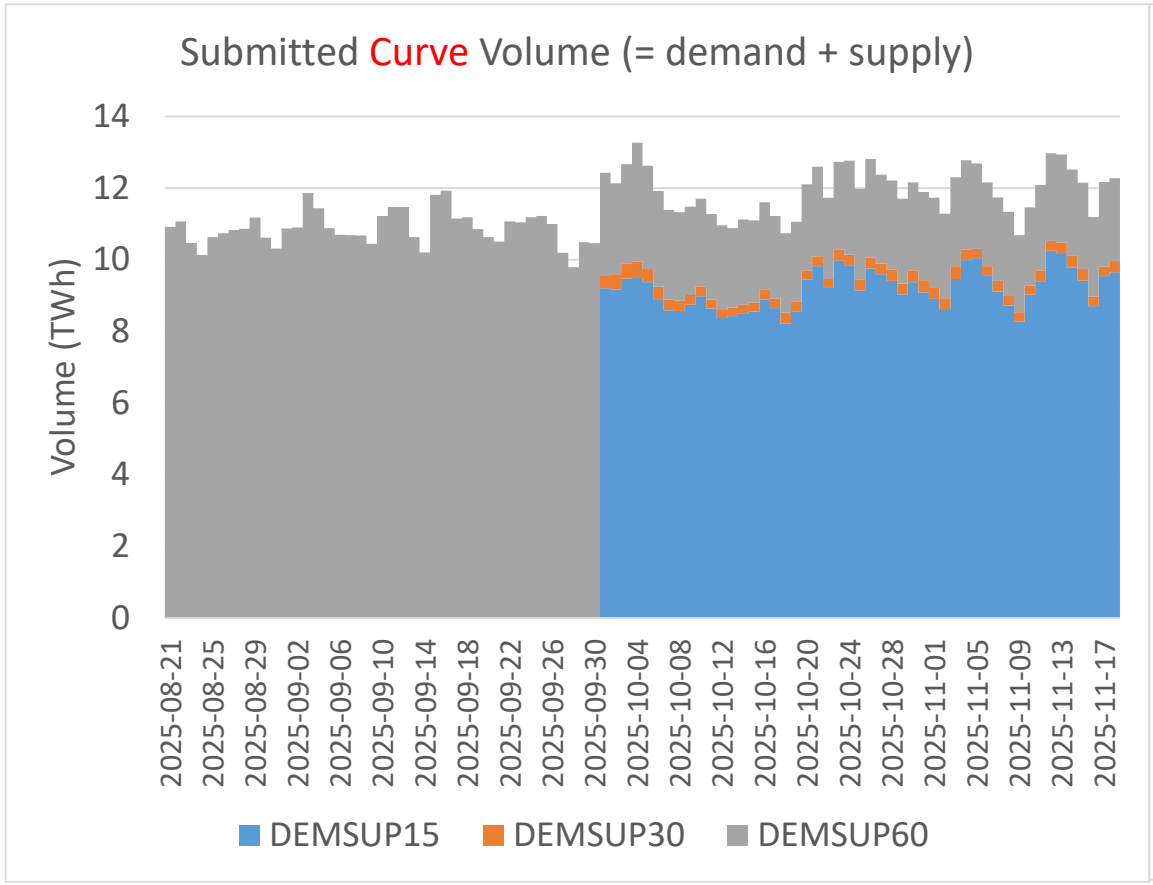
- *Before* 30.09.25, incl.: 17mins = 1020s
- *After* 01.10.25, incl.: 30mins = 1800s

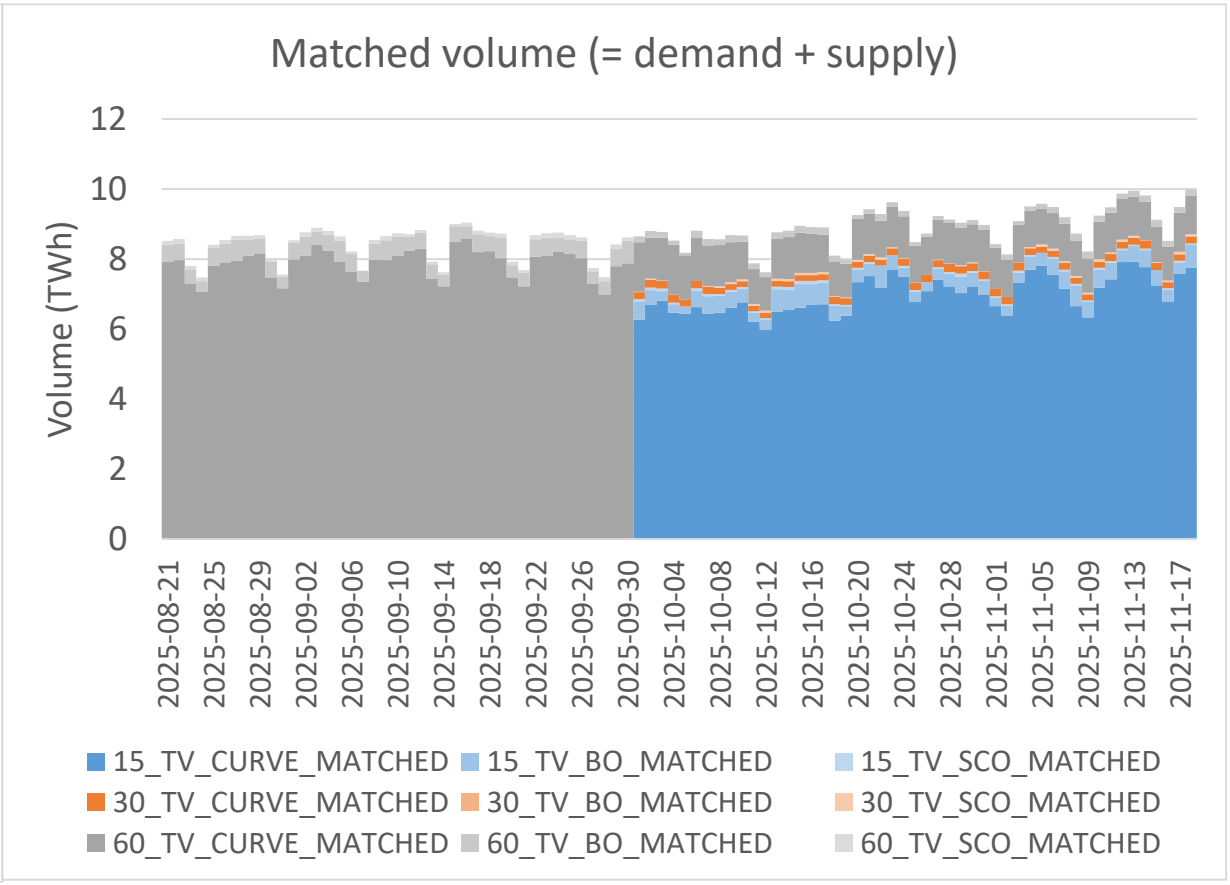
- Before 30.09, SDAC algorithm was already running on powerful machines meeting requirement for 15' MTU

- **NEMOs and TSOs have invested into SDAC algorithm in the past years to make the 2025 go-live a success**

Main Bulletins – SDAC Status Updates

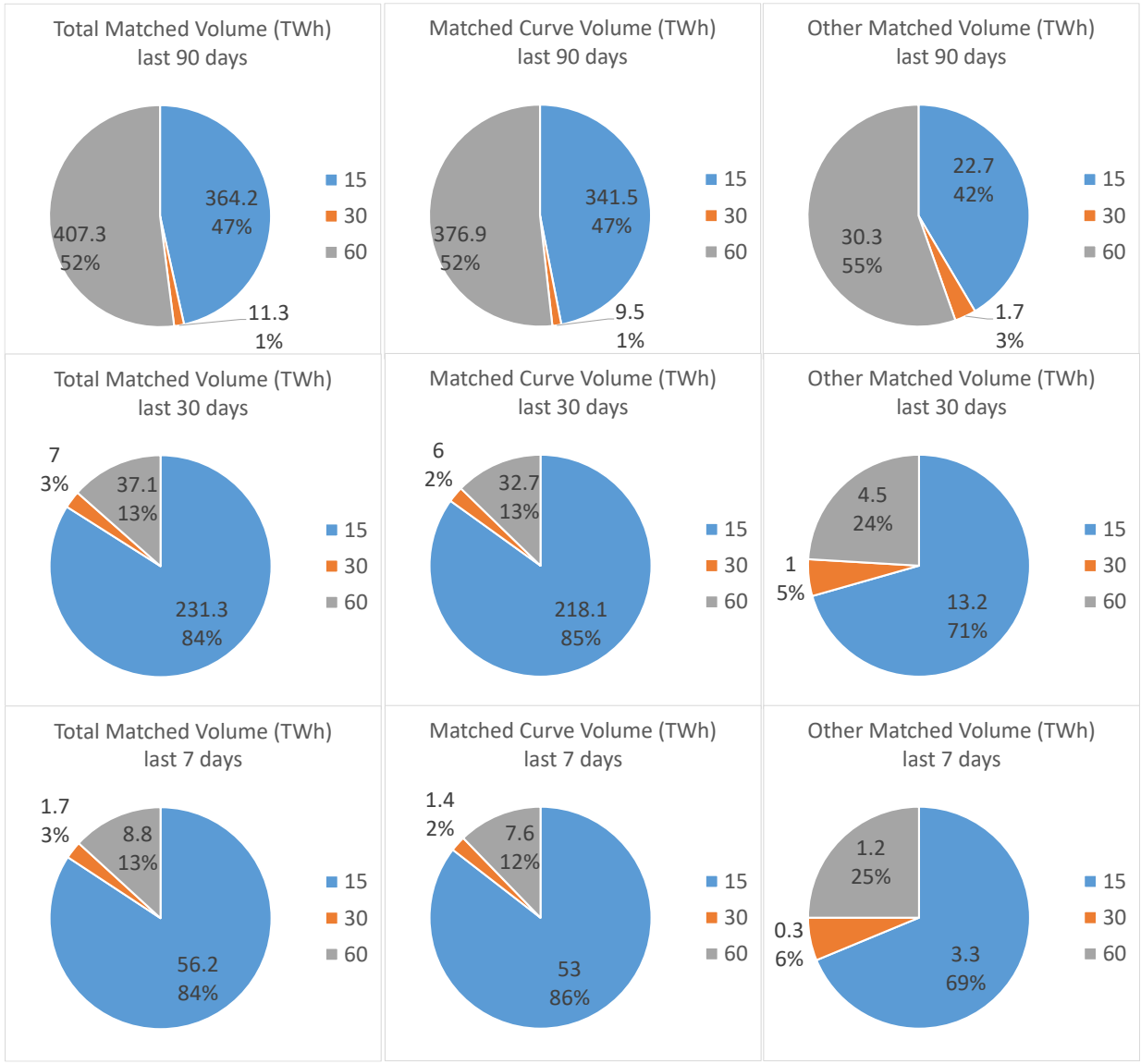
Statistics on Algorithm in Last 90 Days: Volumes





Main Bulletins – SDAC Status Updates

Statistics on Algorithm in Last 90 Days: Matched Volumes per Time Resolution



Main Bulletins – SDAC Status Updates

Summary of Offered Volumes per Country for the Period 01.10–19.10.2025

Area	15MTU curve volume from total offered curve volume	15MTU total (curve+block) volume from total offered volume
AUSTRIA	57 %	53 %
BALTIC	**93 %**	29 %
BELGIUM	61 %	73 %
BULGARIA	69 %	69 %
CROATIA	44 %	39 %
CZECHIA	37 %	54 %
DENMARK	67 %	54 %
FINLAND	**89 %**	**87 %**
FRANCE	62 %	**84 %**
GERMANY	78 %	**83 %**
GREECE	**95 %**	**96 %**
HUNGARY	72 %	64 %
IBERIA	**100 %**	**100 %**
ITALY	79 %	79 %
NETHERLANDS	58 %	54 %
NORWAY	**88 %**	**86 %**
POLAND	55 %	56 %
ROMANIA	41 %	43 %
SLOVAKIA	**83 %**	**80 %**
SLOVENIA	59 %	53 %
SWEDEN	77 %	80 %
Total	**78 %**	**77 %**

Note: Ireland has 30 min Curve and Block volumes only, it is therefore excluded from the list.

Main Bulletins – SDAC Status Updates

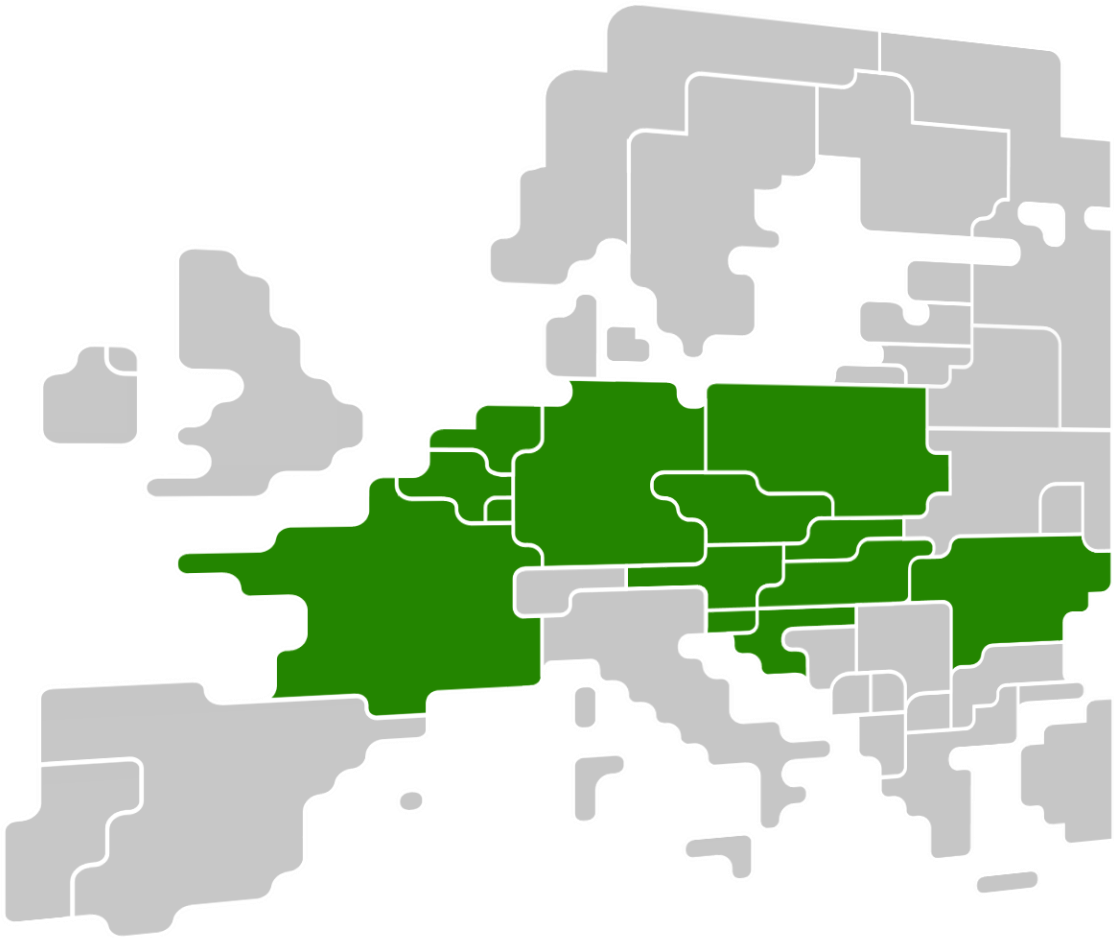
SDAC Fallback Improvement Measures

Status of ongoing activities

- NEMOs, TSOs, ACER, and NRAs are continuing the investigation into the identified workstreams. The next PCG WS is on 21/01/2026.
- Regarding WS5, Core NEMOs and TSOs have prepared slides on the expected next steps.

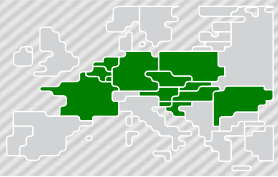
Workstream	Measure	Status/next step
Additional initiatives	Fallback manual	**Published.**
	Improvements to messages during decoupling situations	**Implemented.**
WS1 - *Minimise the likelihood of partial decoupling due to failed submission of order books in time*	Under analysis	Measures with a longer-term implementation period to be described and investigated by NEMOs.
WS2 - *Relax existing deadlines*	Relaxing the 15:30 deadline	Under consideration ENTSO-E.
WS3 - *Optimise existing SDAC timings and procedure*	Optimise existing timings	Measures with a longer-term implementation period to be described and investigated by NEMOs.
WS4 - *Fallback capacity allocation*	Continuous SIDC as the fallback solution for DA capacity allocation	Further investigation into: performance impact, scope of application, quality of SDAC price formation, impact on congestion income, legal analysis.
WS5 - *Preventing multiple SDAC prices in a bidding zone*	Preventing multiple SDAC prices in a bidding zone	Core TSO and NEMO (Joint) Steering Committee (Core JSC) have agreed to implement an alternative to current local auctions design that prevents multiple SDAC prices in a bidding zone during a partial decoupling.
WS6 - *Ensuring a single SDAC reference price in every bidding zone in all situations*	Develop a single SDAC price solution for the case of full decoupling	Further investigation into: performance impact, scope of application, quality of SDAC price formation, impact on congestion income, legal analysis.

Update on Electricity Regulation Art. 7.2 (ca)



Update on Electricity Regulation Art. 7.2 (ca)

Background



Background

- Article 7.2 (ca) of the Electricity regulation was updated in line with EMDR changes in 2024. This poses a conflict between the Electricity Regulation and Core procedures & local MNAs, specifically as running local auctions in cases of partial decoupling (in MNA areas) is not allowed anymore.
- This means that the fallback procedures used in the Core CCR need to be adapted for MNA area—as the existing fallback procedures rely on the use of Local Auctions.
- As previously shared in stakeholder meetings (PCG 23/05, 07/10, MCCG 23/10), Core NEMOs and TSOs have agreed to implement Volume Allocation in case of partial decoupling (in MNA areas when at least one NEMO of the concerned MNA area(s) remains coupled): with this mechanism, volumes from decoupled NEMOs can be cleared against the SDAC price.
- This new mechanism is being supported through appropriate technical, procedural and regulatory adaptations.

The aim of today is to

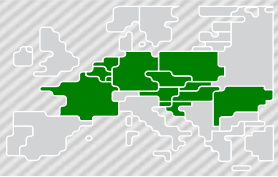
- provide Core NRAs with the latest status on the technical implementation of Electricity Regulation Art. 7.2 (ca)
- get feedback from NRAs on the timeline for approval of Multi-NEMO arrangements.

Reminder on high-level design volume allocation in MNA areas

- In case a NEMO is unable to submit an orderbook to SDAC, the NEMO is decoupled from SDAC.
- The SDAC price is calculated without the decoupled NEMO(s), where this SDAC price is the only price published for all NEMOs.
- The decoupled NEMO can allocate buy and sell volumes at the fixed SDAC price until all volumes that can be balanced are allocated.
- Any remaining buy or sell volumes remain unmatched and should be traded OTC or in the intraday market.

Update on Electricity Regulation Art. 7.2 (ca)

Status



Removal of local auctions in MNA areas before implementing Volume Allocation

- Core NEMOs and TSOs assessed whether to remove local auctions in case of partial decoupling in MNA areas before implementing Volume Allocation. As several TSOs and NEMOs cited that the lack of volumes allocate in DA coupling could lead to security risks, no decision could be reached to remove local auctions in Core production procedures without simultaneously implementing an alternative mechanism.

Implementation of Volume Allocation

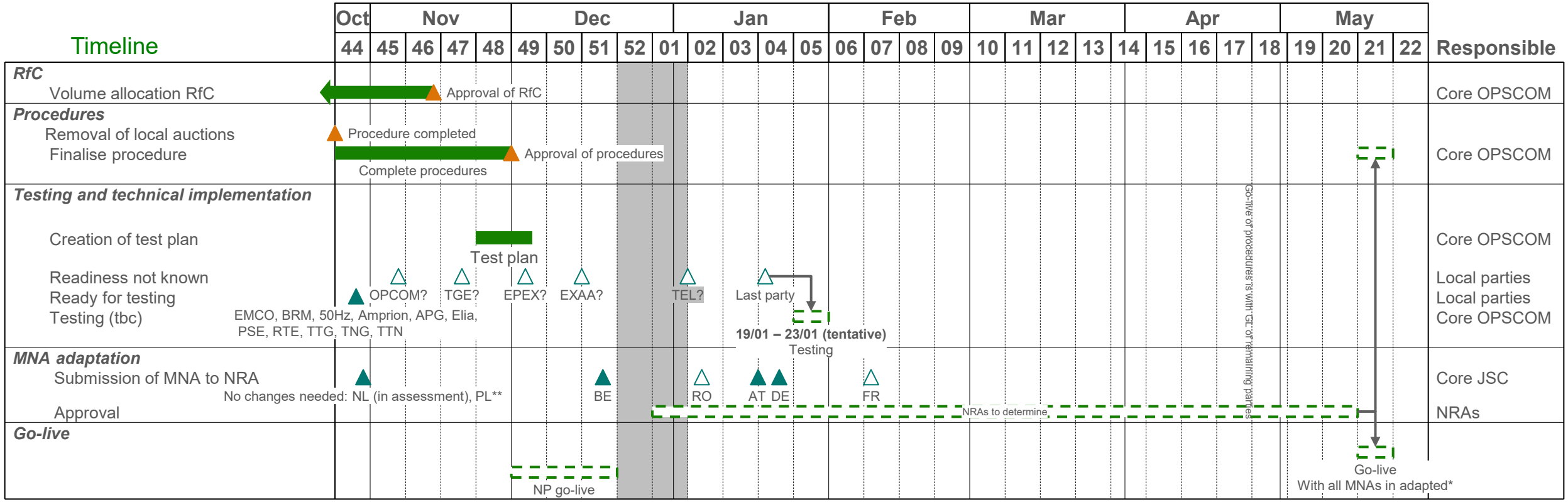
- As can be seen in the high-level timeline on the next slide, there are several elements linked to the implementation of volume allocation.
  - **Central/regional implementation** – no technical implementation is needed on a central or regional level
  - **Local implementation** – NEMOs in Core MNA areas will need to implement the Volume Allocation in their local systems. Implementation efforts for TSOs are not expected.
  - **Procedures** – Fallback procedures for Core need to be updated to remove the local auctions (for MNA areas) and include the new process for Volume Allocation (an intermediary procedure accommodating both can be prepared).
  - **Multi-NEMO arrangements** – for some countries, the fallback procedures are described in the multi-NEMO arrangements. TSOs and NEMOs have started the necessary alignments to adapt these arrangements and remove the obligation to perform local auctions as the case may be (DE/LU MNA). (See dedicated slide.)

Timeline

- Nord Pool will implement Volume Allocation in December 2025.
- Other MNA NEMOs are planning to implement it jointly once the MNA are approved and local testing and implementation is completed.
- Currently, Belgian MNA is under public consultation and would be submitted to Belgian NRA end of December 25. The other MNAs are currently being finalised and should be submitted for approval early 2026. As of submission, NRAs have 6 months to approve the MNA.
  - Core NEMOs and TSOs kindly ask Core NRAs to organise the MNA approval process swiftly after submission by TSOs.

Update on Electricity Regulation Art. 7.2 (ca)

Timeline



Notes

- This timeline shows the necessary steps and the dependencies involved—the dates involved are still under discussion and depend heavily on local readiness and MNA approval. Dates which are not known or uncertain are indicated with non-filled shapes.
- ** For Poland, only local procedures are to be changed.
- OPCOM, TGE, EPEX, EXAA, and TEL are investigating when they would be able to complete their local implementation of VA. These parties have been asked to provide clarity on the readiness.
- Nord Pool is will implement Volume Allocation in December.

Update on Electricity Regulation Art. 7.2 (ca)

MNA amendments

Overview of MNA status and timeline per country

MNA	Status/explanation	Expected submission date	Expected approval date
AT MNA	Draft amendment of MNA shared, in alignment with NRA	APG: planned for end of year- Mid January 2026	APG: Depending on NRA approval (up to 6 months)
BE MNA	Public consultation started from 21/11/2025 to 19/12/2025. Submission to CREG expected for 23/12/2025. https://www.elia.be/en/public-consultation/20251121_public-consultation-on-the-amendment-of-the-belgian-multi-nemos-arrangement-mna	23/12	Approval expected end Jan/Begin Feb 26
DE/LU MNA	First draft amendment of MNA shared and commented by NEMOs, NEMOs comments have been processed and new draft has been shared with NRA for comments before starting the approval process (timeline being discussed with regulator)	Expected early 2026	To be decided with NRAs
FR MNA	Preparation in December. Public consultation might be organised; after which the MNA can be submitted.	Early 2026	
NL MNA	Likely no changes needed; this is being confirmed with NRA.		
PL MNA	MNA amendment not needed, only changes in MNA procedures required (Final MNA procedural draft, approval by PL OPSCOM, approval by the PSE board)	N/A	N/A
RO MNA	No information has been provided.		

Status of MNAs per country as of 01/12

Main Bulletins – SDAC Status Updates

Training Session With Market Participants – Full Decoupling and Shadow Auctions

Background and objectives

- On 19/11, NEMOs, TSOs and JAO organized the bi-annual full decoupling session. The test was supervised by SDAC OPSCOM and aims at enhancing market participants' readiness in case a decoupling situation occurs. The training is mainly focused on performing shadow auctions and nominating explicit capacity.

Updates and points of attention

- The test was the first one organized after the go-live of 15 min MTU. Shadow auctions are still using 60 min MTU trading only.
- Number of market parties registered with JAO: 51 market parties (111 users).
- Number of decoupled interconnectors: 30+.

Main Bulletins – SDAC Status Updates

Training Session With Market Participants – Full Decoupling and Shadow Auctions

Test outcome – main points of attention

- Test executed normally until decoupling activities
- Incident messages shared as expected (with minor delays)
- Shadow auctions launched in accordance with the agreed scenario
- Shadow auctions results published and distributed correctly
- BUT rights documents could not be distributed
  - During the generation process of these files, JAO's explicit auction test platform was disconnected and database erased
  - Consequently, rights documents FOR several TSOs and multiple market participants could not be generated (with no recovery possibility)
  - First analysis shows that the issue was caused by a human error and inadequate coordination between JAO operations and IT team. JAO's internal processes have already been updated and procedures reinforced to ensure future stability.
- TSOs could not perform nomination of explicit capacity

Main Bulletins – SDAC Status Updates

SDAC Co-optimisation

Background

- NEMOs and TSOs submitted the R0 report to ACER in April 2025, followed by a public consultation (19 May–30 June 2025) to get stakeholders' views on co-optimisation — covering bid design, bidding products, and pricing.
- Based on this feedback, NEMOs and TSOs prepared an updated draft (R1 report), including the N-SIDE report as an annex.

Key Updates in the R1 Report

- Inclusion of a summary of public consultation feedback in the Executive Summary (bidding products, bid design, pricing).
- Updated R&D planning and a new subsection on general stakeholder concerns about co-optimisation complexity and trade-offs between portfolio optimisation and market coordination, with NEMO/TSO responses added.
- Consolidated feedback per subchapter and corresponding adjustments for the next R&D phase.

Feedback from ACER received

- ACER welcomed the generally supportive stakeholder feedback but requested more reflection on concerns about complexity and bidding products.
- ACER encouraged maintaining a holistic view of bid design to ensure existing SDAC products remain relevant and sees the real benefit in assessing storage inclusion as soon as possible.
- Additionally, ACER recommended assessing Non-Uniform Pricing alongside No-PAB, monitoring future developments in aFRR and mFRR, and also noted that analysing parallels between FCR and aFRR+mFRR would be premature.

R1 report was approved by MCSC and shared with ACER and is published on NEMO Committee [LINK] and ENTSO-E [LINK] websites.

Main Bulletins – SDAC Status Updates

SDAC Co-optimisation

Assumptions for the Next R&D Phase

- Implicit bidding to be used, acknowledging reduced flexibility and transparency challenges.
- Premium option to reflect explicit balancing capacity costs.
- aFRR and mFRR to remain standard balancing capacity products.
- Common Market Time Unit and clearing mechanism to apply across energy and balancing capacity products.
- Substitutability rule (aFRR replacing mFRR if cheaper) to be maintained.
- Continued focus on linked and combined bids:
  - Linked bids: retain current types and add an exclusive link on maximum power, without cross-product/MTU limits.
  - Combined bids: extend existing bid types (step/interpolated, block, scalable complex, thermal) to include upward/downward balancing capacity; future work to address storage and demand response bids.
- Initial focus on exclusive linking of combined bids, with further analysis planned.
- Current Euphemia design to remain the baseline, with gradual integration of new bid types; block bids retained but may be replaced over time as alternatives mature.
- No-PAB solution to serve as the baseline for further R&D; NUP to be assessed in parallel if simulation results indicate challenges.

In the next phase, Simulations will be an integral part of the R2 report preparation with the aim to use a prototype based on the existing version of EUPHEMIA that will include the co-optimisation modelling which would cover a subset of BZs and then a large-scale model.

Currently, the key focus for NEMOs and TSOs is to generate a representative balancing capacity dataset—as no historical co-optimisation order data exists for balancing capacity—and the plan is, in the beginning of 2026, to initiate 1st simulation phase.

NEMOs and TSOs note that no final requirements can be drawn from the R&D. Further assessment & simulations are required as input to the next phase.

Main Bulletins – SDAC Status Updates

Focus on Core Advanced Hybrid Coupling

Background

- SDAC QARM is actively aligning within SDAC to clarify the release planning and testing resources in 2026. Focus was to clarify Core AHC needs in the context of all Q1-Q2 2026 activities.

Updates

- **Start of the tests:** The Core AHC integration test in the Core region is currently scheduled to start in the end of January 2026. The start of this test is subject to SDAC's confirmation regarding:
  - Validation of all the projects planned to go-live prior to Core AHC: EXAA extension to FR, NL and BE, as well as Hansa phase 2.
  - Clarification of the PMB/Euphemia release with which Core AHC will go-live: current production version, PMB14.0/E12.0, need for a new Euphemia release (cf. Below).
  - Depending on the above, validation of any non-production PMB/E version in case it is the needed version for Core AHC go-live.
- **EUPHEMIA dependency:** Simulation tests will be run in batches as of beginning of November for both E11.4 and E12.0 using 15min production data to assess which Euphemia release will be used for Core AHC. At least 3 months of production data are needed to evaluate the release. Hence the result won't be available before beginning of 2026.
- **As a summary,** all Core AHC activities are being organized following the current planning for test and go-live. The final validation of its feasibility will be concluded mid-January 2026.

SIDC

Main Bulletins – SIDC Status Updates

Progression of FB Implementation Planning Activities and Adjustments Over Time

Date/Period	Milestone/Activity
Dec 2020	Project kick-off; Planning counts with dependencies on Core and Nordic FB for DA.
Sep 2021	FB design for CT ready for DBAG discussion.
Q2–Q4 2022	Initial alignments with DBAG on FB design for CT; go-live of FB for CT expected earliest 2026.
Q2–Q4 2023	PoC (Minimum Viable Product) by DBAG; performance and conceptual issues identified.
Q2 2024-Q3 2024	First considerations on implementing FB in IDAs as interim solution and a decision to trigger wider R&D for FB in CT.
Q4 2024	SIDC MSD and ACER workshop to discuss next steps in detail.
Q4 2024–Q2 2025	FB in IDAs design phase - largely completed in Q2 2025 - allowing DBAG to estimate development time. Final refinement not on critical path due to DBAG resource constraints.
Q3–Oct 2025	Specific design details refined; **some requirements removed to decrease scope and accelerate progress**.

Main Bulletins – SIDC Status Updates

Flow-Based in IDA

Achieved milestones and next steps

- Design phase - completed ☑
- Implementation phase - planned and started ☑
- Testing phase ☐
  - High level planning is available
  - Detailed planning is under preparation with following dependencies:
    - CTG (main testing group of SIDC) is preparing full test plans based on specifications update - these are delivered and aligned during the development. For R6.0 specifications update alignment is foreseen in Q1 2026.
    - R5.1 (performance and other improvements) and R6.0 (FB in IDA) may require simultaneous testing to optimize the testing timeline.
    - Regional initiatives were asked to confirm their readiness for joint E2E testing as of early 2027 with the aim to complete the testing as soon as possible in 2027.

TSOs and NEMOs continue to seek further optimization in test planning for FB in IDAs and in R&D for FB in CT. This includes a possible stepwise implementation of the improvements.

Main Bulletins – SIDC Status Updates

Flow-Based in SIDC

FB R&D CT Workstreams and their status

- 3 FB R&D CT workstreams have been created in Q4 2024. This approach allows:
  - to investigate, in principle simultaneously, several options on how to increase capacity allocations efficiency using FB principles.
  - to follow phased approach for implementing these improvements.
  - to decide which of the workstreams is most promising.
  - put on hold/step back from an approach which is found not viable without disturbing the whole process.
- Approach A: Solver based
  - All topology data (RAM/PTDF + ATC) as constraints are used by a solver directly in the coupling-stage - the capacity calculation in XBID and allocations are based directly on these data.
- Approach D: Single matrix
  - Coupling-stage works with a single "PTDF" matrix representing the topology of the entire coupled grid (replaces 2 PTDF matrixes of CORE and Nordic region + all ATC interconnectors). Geometric projections are used to eliminate variables when single "PTDF" matrix is created.
- Approach E: Dynamic ATC recalculation
  - The coupling-stage works further with ATCs as today - this approach eliminates flow-based capacity allocation at the coupling stage. Frequent repetitive ATC extraction being newly part of the allocation stage is done as pre-processing of FB data.

Main Bulletins – SIDC Status Updates

Flow-Based in SIDC

FB R&D CT Workstreams and their status

- Approach A: Solver based
  - Simulations done with help of external provider so far seem to show significantly better performance than what DBAG achieved in 2023, still the results are not enough good to trigger new PoC with DBAG, therefore further tuning of the algorithm is ongoing.
  - Active-passive pairwise matching is in focus for the beginning and iterative extensions covering other aspects are foreseen.
- Approach D: Single matrix
  - As other workstreams seemed more promising this concept is on hold for now.
- Approach E: Dynamic ATC recalculation
  - Design description/CR is ready for discussion with DBAG (planned to start in January 2026 to avoid impact to implementation of FB in IDA).
  - Additional analysis is considered to quantify dependency of the achieved benefits on the frequency of the ATC recalculation.

Main Bulletins – SIDC Status Updates

Flow-Based in IDAs

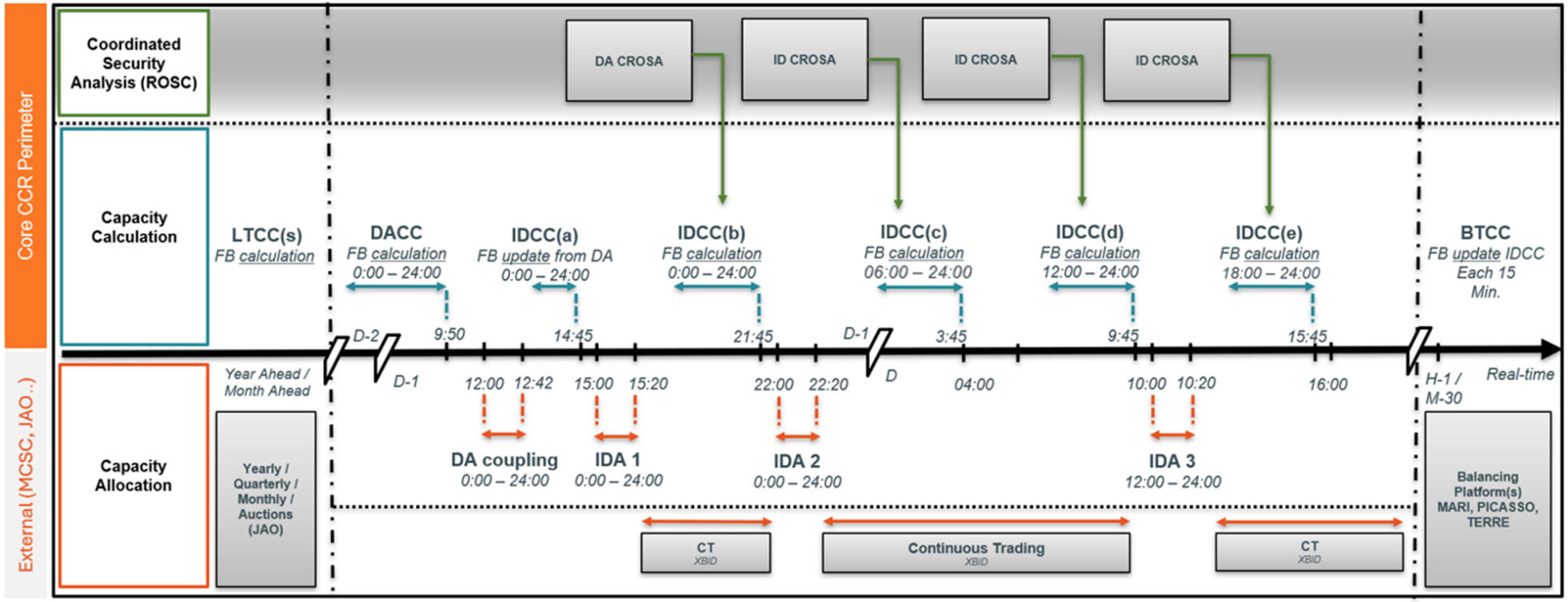
Updates and Points of Attention

- In 23/09 PCG, ACER inquired about the recalculation of capacities for Flow-Based in IDAs.
- Information on regional capacity calculation processes is provided in the following dedicated slides.
- Regarding process being performed in XBID itself when Flow-Based for IDA is introduced:
  - TSOs deliver so called zero-balanced domain (PTDF matrix and RAMs).
  - XBID will perform domain shifting i.e. recalculate RAM using information about up-to-date Flow-Based Net Position of individual Bidding Zones derived from total Already Allocated Capacities prior specific IDA.
- Regarding status of FB for IDA implementation:
  - Design discussions with IT provider have been completed, and the implementation to XBID has started.

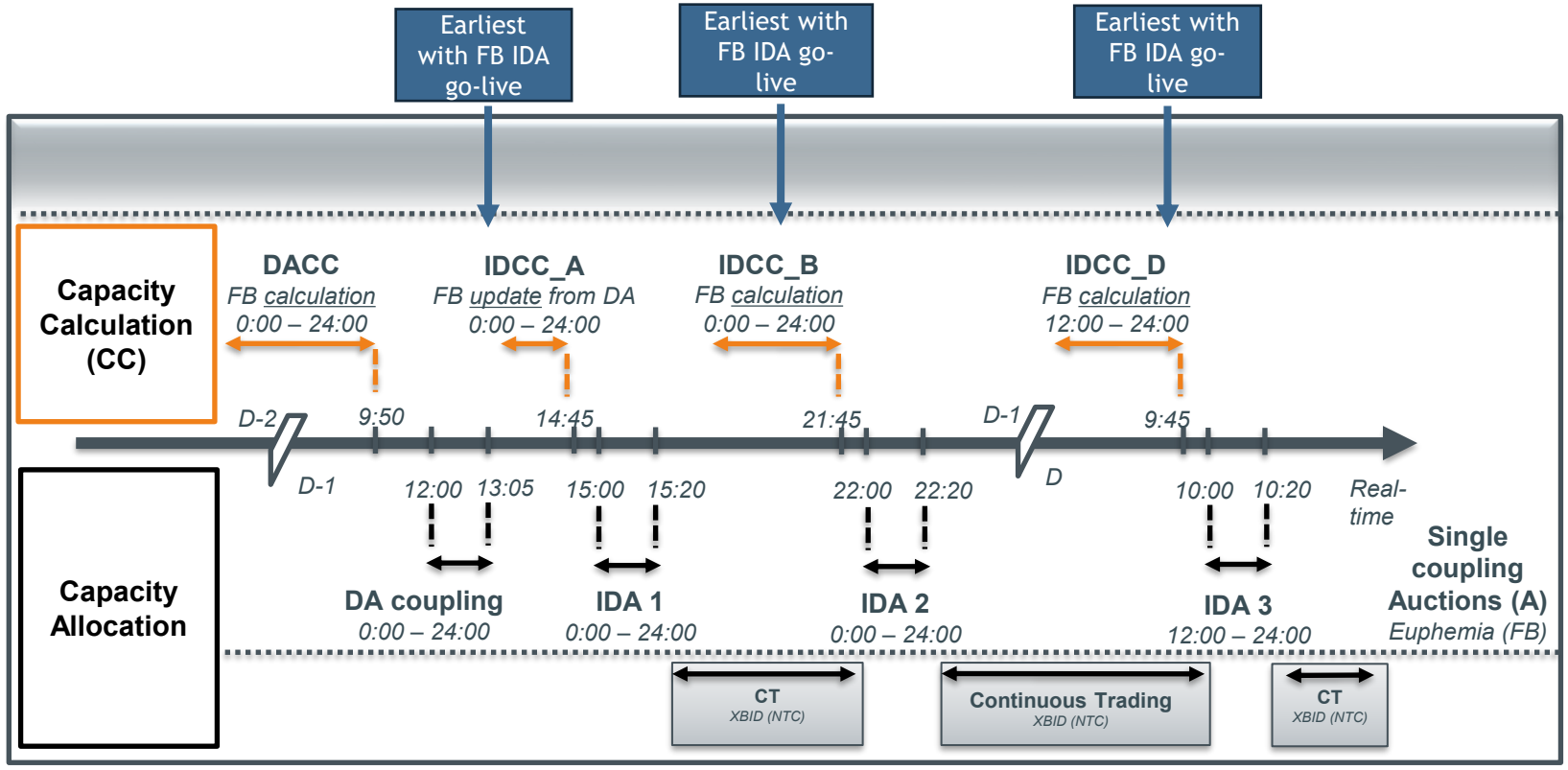
Capacity calculation processes in CORE Region

Core CCM contains the process to reevaluate DA FB domain for IDCC_a, then recompute new FB domains for IDCC_B to E. ATC extraction is considered until needed for the allocation. 5th revision of Core IDCCM will introduce the Recalculation of ATC after IDA for continuous trading.

Starting from Day-Ahead Timeframe, a repetitive loop from Capacity Calculation, to Allocation and afterwards Security Analysis starts.



NORDIC INTRADAY CAPACITIES – CURRENT ROADMAP



Main Bulletins – SIDC Status Updates

Corrective Measures in XBID

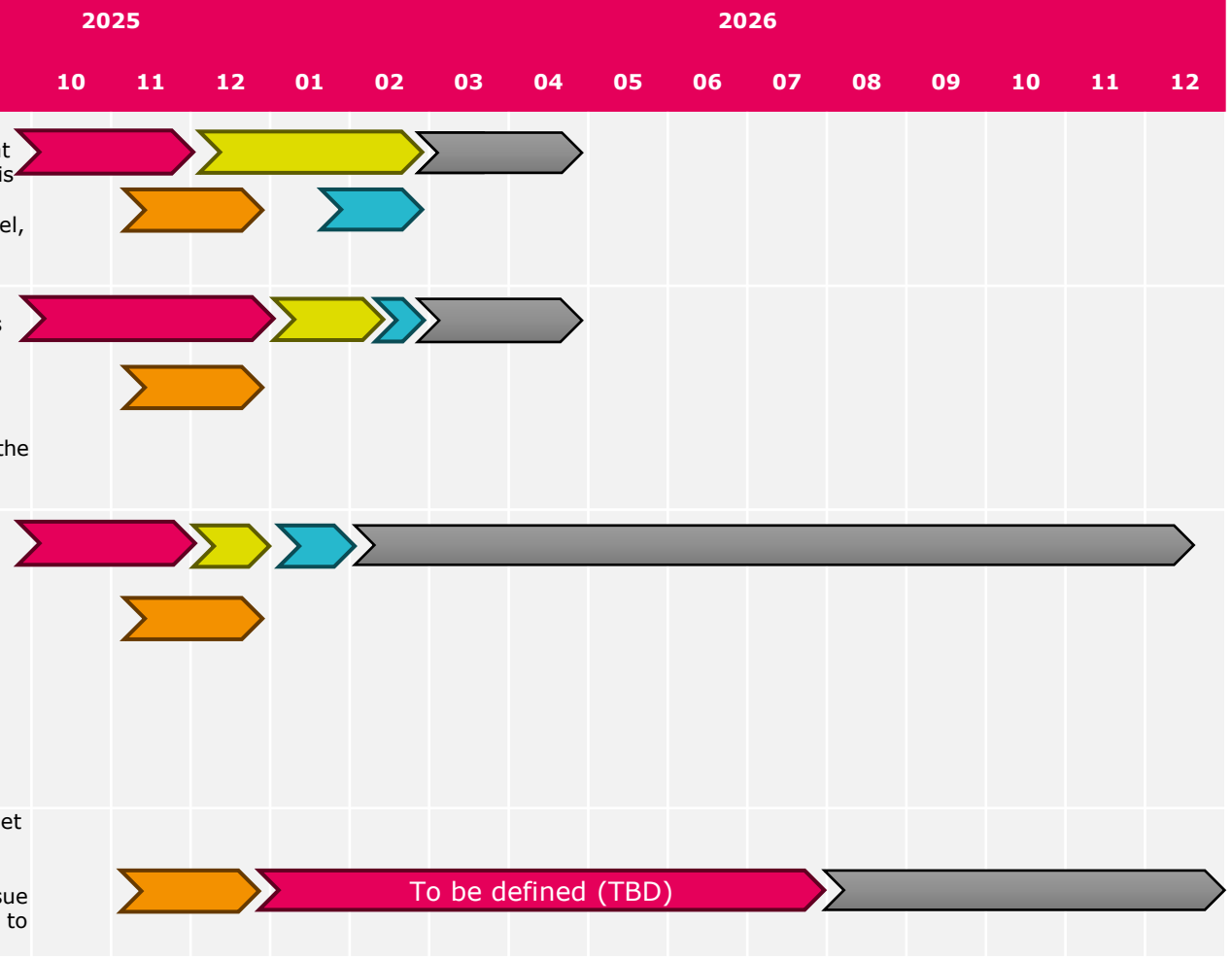
Updates and Points of Attention

- On **23th of October, 2025,** NEMOs and TSOs provided an update on Corrective Measures in XBID. The full content may be found on [ENTSO-E] and [NEMO Committee] Websites.
  - NEMOs and TSOs are committed to further performance improvements which, in optimal situation, should lead to a no need to use corrective measures.
- Short-term corrective measures:
  - NEMOs are applying a **hybrid model** for ensuring performance of SIDC CT. This implies that NEMOs apply individual corrective measures.
  - The corrective measures are focused on controlling/limiting the overall maximum of order transactions and trades, either during large periods (days) or during peaks on individual basis.
- Long-term corrective measures:
  - The scope of the corrective measures and their contribution to the performance improvement is under scrutiny as well as the Key Performance Indicators which are expected to set the ground for the activation of the respective corrective measures.

Main Bulletins – SIDC Status Updates

Corrective Measures in XBID

Corrective Measure	Description	Application
Decrease of orderbook depth	The anonymized information on the available orders, showing volumes and prices. As there may be immense number of orders present in the respective market areas, the information which is provided to the market participant needs to be limited to comply with the technical capabilities of the central and local systems.	The standard OBK depth is set at 100 best competitive orders. This corrective measure foresees to limit OBK depth to the lower level, e.g. 50.
Limitation on LINK orders	Linked orders mean that there is a block of orders which shall be executed at the same time (all or nothing), which require additional processing time compared to regular orders.	The corrective measure on limitation on LINK orders means that such a functionality will be disabled on the central level, meaning that block of orders submitted by the market participants will be rejected for the period of activation of this corrective measure.
Reduction of price tick size	Any order which is submitted to the shared order book needs to contain predefined attributes, which, among others, are the limit price of the order for which it can be sold/bought and volume of the energy associated with the order. Every attribute has technical and logical limits in case of price, such as minimum/maximum value or price tick size. The price tick size means the minimum steps between two "neighboring" prices of the order. Currently it is set to 1 euro cent. Hence the sequence of the prices can look e.g. as 80,00 – 80,01 – 80,02 - …EUROs	The purpose of this corrective measure is to change this price tick size to 10 eurocents, so the sequence of the prices can look e.g. as 80,00 – 80,10 – 80,20 - …EUROs
Order Ratio (on NEMO or MP level)	The corrective measure aims on harmonised management of the number of orders which market participants provide to LTS. For the considered ratios see the next slide.	For harmonized order ratio (or set of order ratios) a default parameter is agreed. In case of the KPI indicate performance issue the stricter parameter is applied to better manage the system load.



Competition compliance | Design, Implementation & planning of testing | Testing | Evaluation (To approve or discard the CM) | Preparation for application, including regulatory changes if applicable

SIDC

Main Bulletins – SIDC Status Updates

Corrective Measures in XBID

- Considered order ratios:
  - **Order Per Time** – MP can only submit one order if predefined time has passed after previous one. There is no fix start of the counting, in principle each submitted order starts the counting.
  - **Order Per Timeframe** - MP can submit maximum number of orders in the predefined "floating" interval. There is no fix start of the counting, in principle each submitted order starts the counting.
  - **Order Per Trade Ratio on NEMO level / Order Per Trade Ratio on MP level** – the predefined number of submitted orders shall lead to the creation of at least one trade.
  - **Order Per Traded Volume Ratio on NEMO level / Order Per Traded Volume Ratio on MP level** - the predefined number of submitted orders shall lead to the creation of one or multiple trades with at least predefined volume.
  - **Order Volume Per Traded Volume Ratio on NEMO level / Order Volume Per Traded Volume Ratio on MP level** - the predefined volume included in the submitted orders shall lead to the creation of one or multiple trades with at least predefined volume.

Main Bulletins – SIDC Status Updates

IDA Updates and Points of Attention

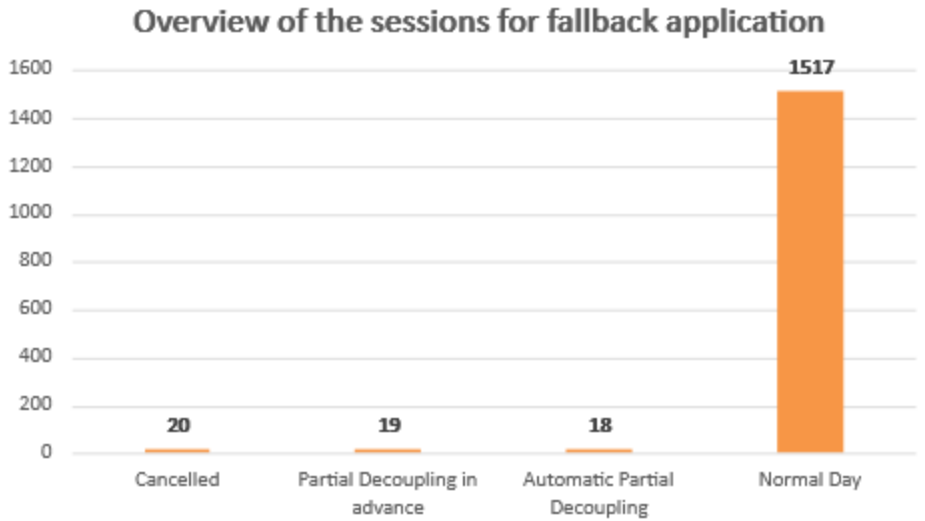
- In 17 months of operations, IDA market managed approximately **108 million MWh** of energy – considering both supply and demand (with a total of **216 millions of cleared MWh**).

	2024		2025	
	SIDC CT	SIDC IDA	SIDC CT	SIDC IDA
Jan	16,729,285	0	23,183,025	6,285,049
Feb	14,849,588	0	20,343,762	5,781,667
Mar	16,314,405	0	22,403,810	6,831,226
Apr	17,904,729	0	23,411,308	6,742,902
May	17,659,514	0	24,902,306	6,975,936
Jun	17,907,908	3,139,013	24,953,595	7,576,695
Jul	16,914,528	5,945,950	24,603,017	7,239,199
Aug	16,512,482	5,751,093	23,881,540	7,587,232
Sep	16,831,037	5,761,183	24,908,010	7,396,478
Oct	17,870,141	6,172,833	25,607,193	6,884,985
Nov	17,538,937	6,047,945	0	0
Dec	29,253,218	6,061,375	0	0

Main Bulletins – SIDC Status Updates

IDA Updates and Points of Attention

- Out of **1574 sessions** run in the observed period (from the first delivery day of 14th of June to 19th of November), 57 of them were affected by fallback procedures:
  - 20 cancelled,
  - 19 affected by Partial Decoupling in advance,
  - 18 affected by APD (Automatic Partial Decoupling).



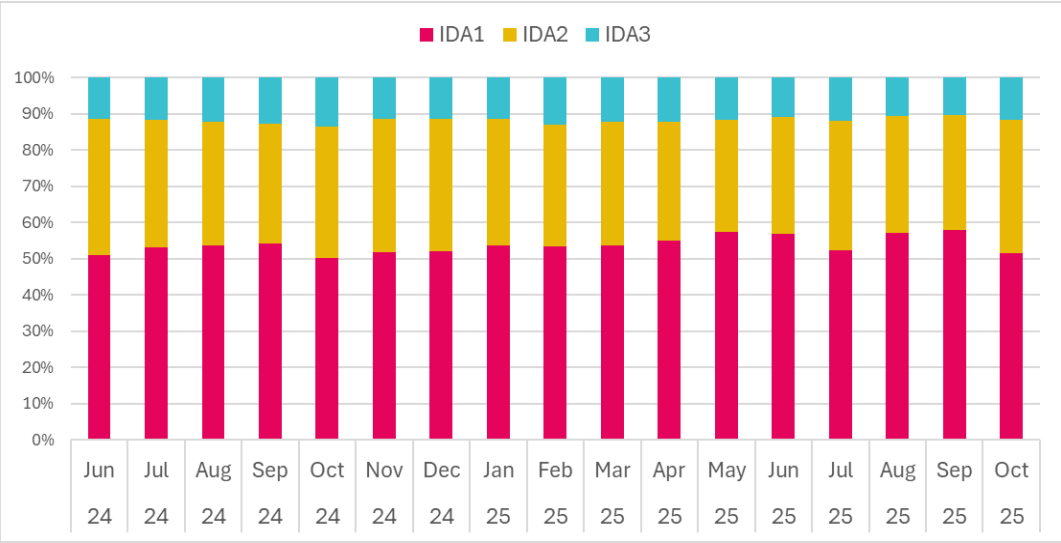
- Which means that:
  - IDA has been working smoothly in the **98,73%** of the times,
  - In the 1,27% of the cases, no results were published at all;
  - In the 2,35% of the cases, the results were available, but not for all parties (the case of partial decoupling in advance can involve even only one party (or BZ).

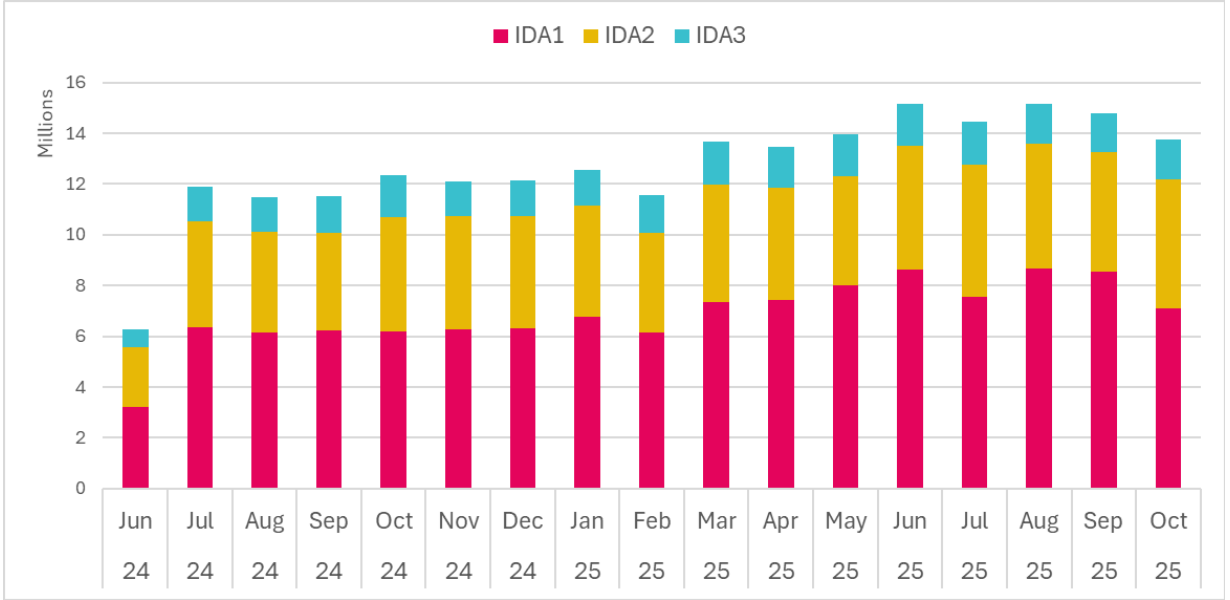
Main Bulletins – SIDC Status Updates

IDA Updates and Points of Attention

- Giving a closer look to the available data:

The cleared volume per month peaked in the summer months, with a slight decline in September and October. IDA 1 maintains the majority of demand (keeping in mind that IDA 3 manages contract for only half the day given that trading/delivery is only possible after 12 and until midnight) …

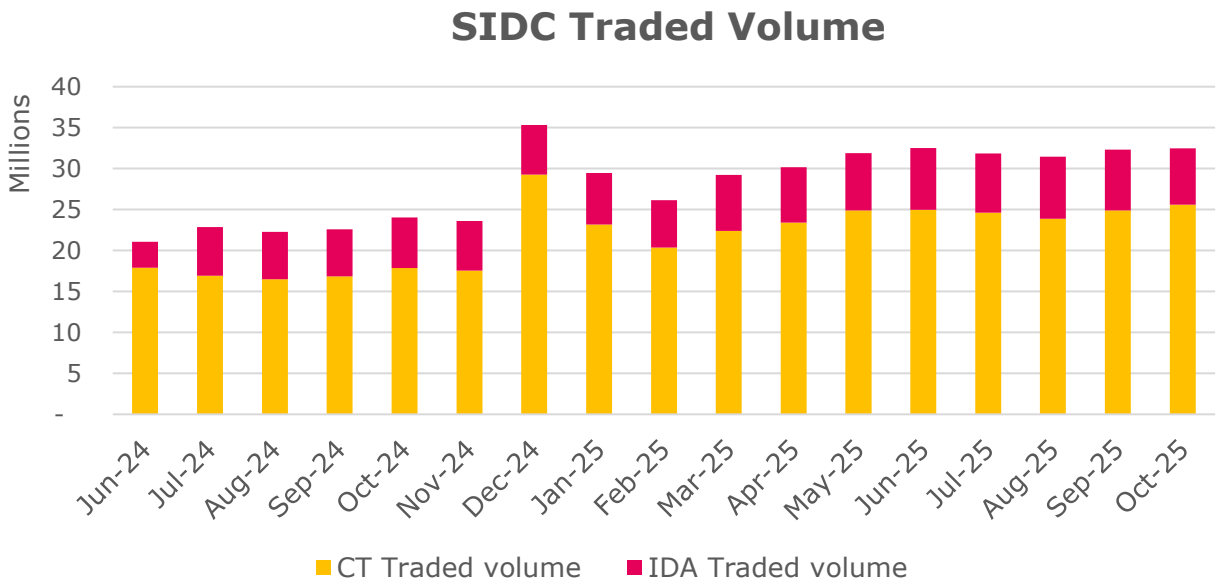




… While the shares among the 3 auctions for each month seem to be relatively stable since the beginning.

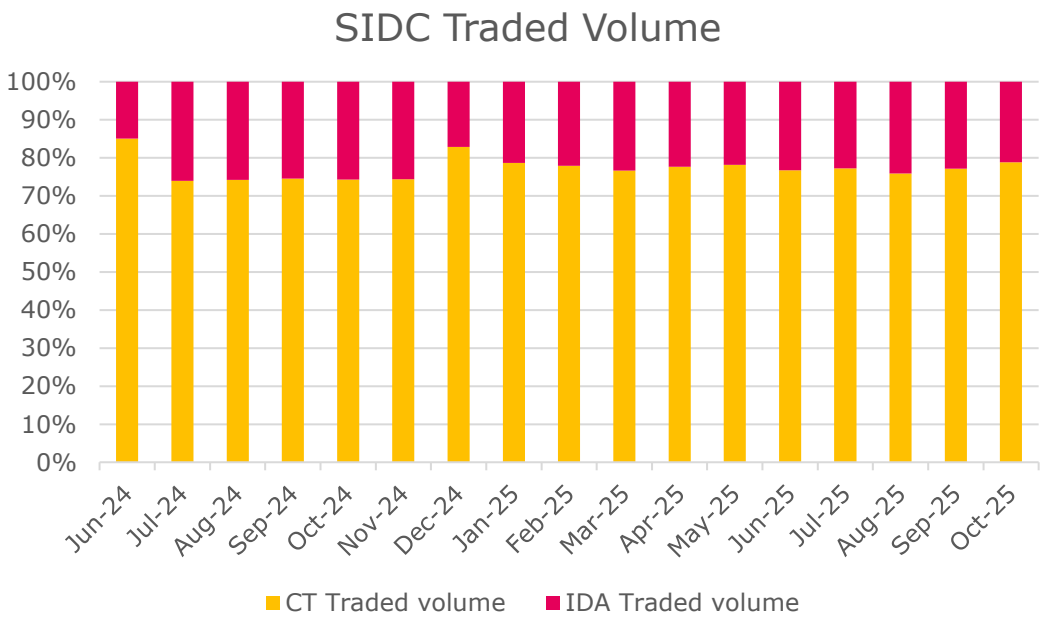
Main Bulletins – SIDC Status Updates

IDA Updates and Points of Attention



The share of IDAs in the total traded energy in the Intraday market has been relatively similar.

The overall traded volume(*) within SIDC (MWh) is growing.

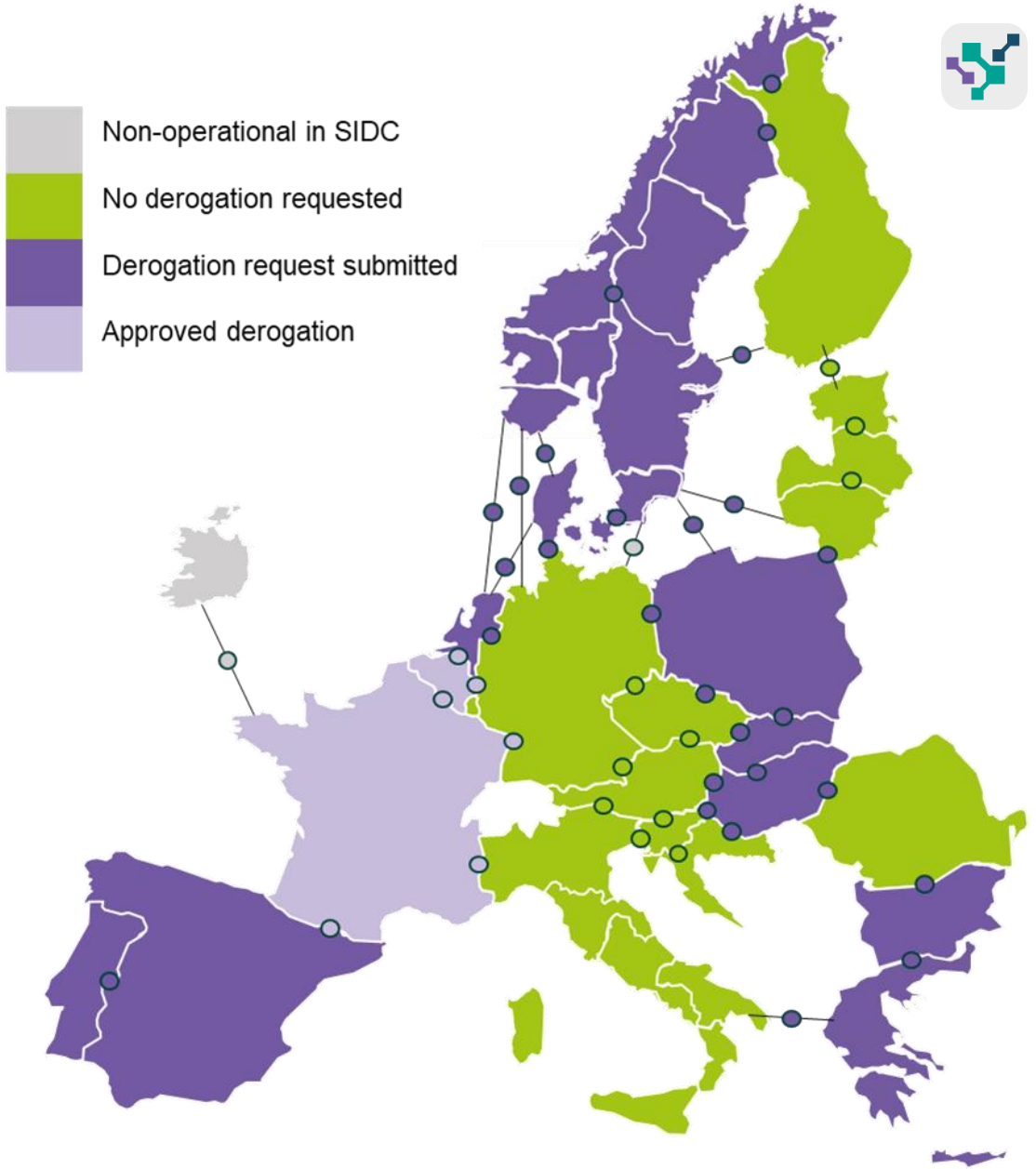


(*) For this comparison, the data are adapted to those already collected and provided via AM/SH reports. Differently than the previous slide, there's just one side of the market considered for that.

Main Bulletins – SIDC Status Updates

30-Minute IDCZGCT

- **TSOs finished with the development of** their local systems. Central testing was successful.
- The **go-live date is set to 14/01/2026** (delivery day) for the first group of TSOs who were not asking for derogation.
- Derogations were submitted to NRAs after the market consultations; still pending approvals in several countries.
- A **border-based overview is published on ENTSO-E website,** update expected in mid-December.



Derogation request will only be officially submitted by Statnett after transposition of relevant regulation in Norway.