Future Markets & Market Operator User Group (MOUG)

Stakeholder Engagement

Industry Workshop

25 March 2026

The Alex Hotel (In-person only)

09:30 – 13:00

EirGrid SONI semo Single Electricity Market Operator

Welcome!

James Atkinson

Stakeholder Engagement Manager, EirGrid

Stephen Gannon

Head of Future Markets, EirGrid

March's Future Markets & MOUG Workshop Agenda

Time	Duration	Segment	Segment Overview	Presenters
09:55 – 10:05	10 mins	Introduction & Overview of Agenda/Breakouts	Welcome, Overview of Agenda, Breakout Sessions	James Atkinson Stephen Gannon
10:05 – 10:40	35 mins	Scheduling & Dispatch Programme (SDP)	General Programme Update	Elaine Corcoran
		Strategic Markets Programme (SMP)	General Programme Update	Stephen Douglas
		Balancing Market Reform (BMR)	General Programme Update	Michael Atcheson
		Future Arrangements for System Services (FASS)	General Programme Update	Niamh Delaney
		Technical Liaison Group (TLG)	General Programme Update	Eoin Farrell
		Long Duration Energy Storage (LDES)	General Programme Update	Mo Cloonan
		Flexibility Needs Assessment (FNA)	General Programme Update	Mo Cloonan
10:40 – 10:55	15 mins	SEMO	Welcome Smart Meter Issue & Impact on SEMO	Claire Kane John Tracey
10:55 – 11:00	5 mins	SEMOpx	Welcome	Nigel Thomson
11:00 – 11:25	25 mins	Break & Networking	Break & Networking	

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Breakout Sessions - Showcase Topics

Room	Rotation	Showcase Topic	Speakers
1	**Rotation 1: 11:25 - 12:10**	**SEMOpx**: Updates & Readiness for MNA A/C Manager Introduction Service Enhancements: Added & Future EU Re-Integration: SEMOpx Member Update Maintenance & Releases Ex-Ante Market Trends	Seán O'Rourke Fiona Britton Joaquin Iniguez De Gante Amy Yeung John Rooney
	Rotation 2: 12:15 - 13:00	Same as Rotation 1	
2	**Rotation 1: 11:25 - 12:10**	**SEMO:** Welcome Trading Overview Settlements Introduction to the Balancing Market	Claire Kane Michael Rainey John Tracey Michael Rainey & David Conway
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3	**Rotation 1: 11:25 - 12:10**	**SDP**: A discussion on SDP_06 Day in the life and scenarios --- **FASS**: Q&A Area with FASS Team	Akshay Bhat Elaine Corcoran Cian Clynes Michael Burke ---- Eoin Farrell Joe Deegan Martin Ward
	Rotation 2: 12:15 - 13:00	Same as Rotation 1	
4	**Rotation 1: 11:25 - 12:10**	**SMP** - A discussion on Capacity Calculation ---------- **EMP** - Q&A Area with EMP Team	Flip Steenbrink John O'Dea ----- Mark Needham Mariia Melnychenko María Troya
	Rotation 2: 12:15 - 13:00	Same as Rotation 1	

Rotation 1: 11:25 - 12:10

Rotation 2: 12:15 - 13:00

13:00 - Workshop Close

Future Markets
General Programme Status Updates

Slido Code: **FMMOUG**

Scheduling and Dispatch Programme (SDP)

Elaine Corcoran

Scheduling and Dispatch – Status

As of 23.03.2026

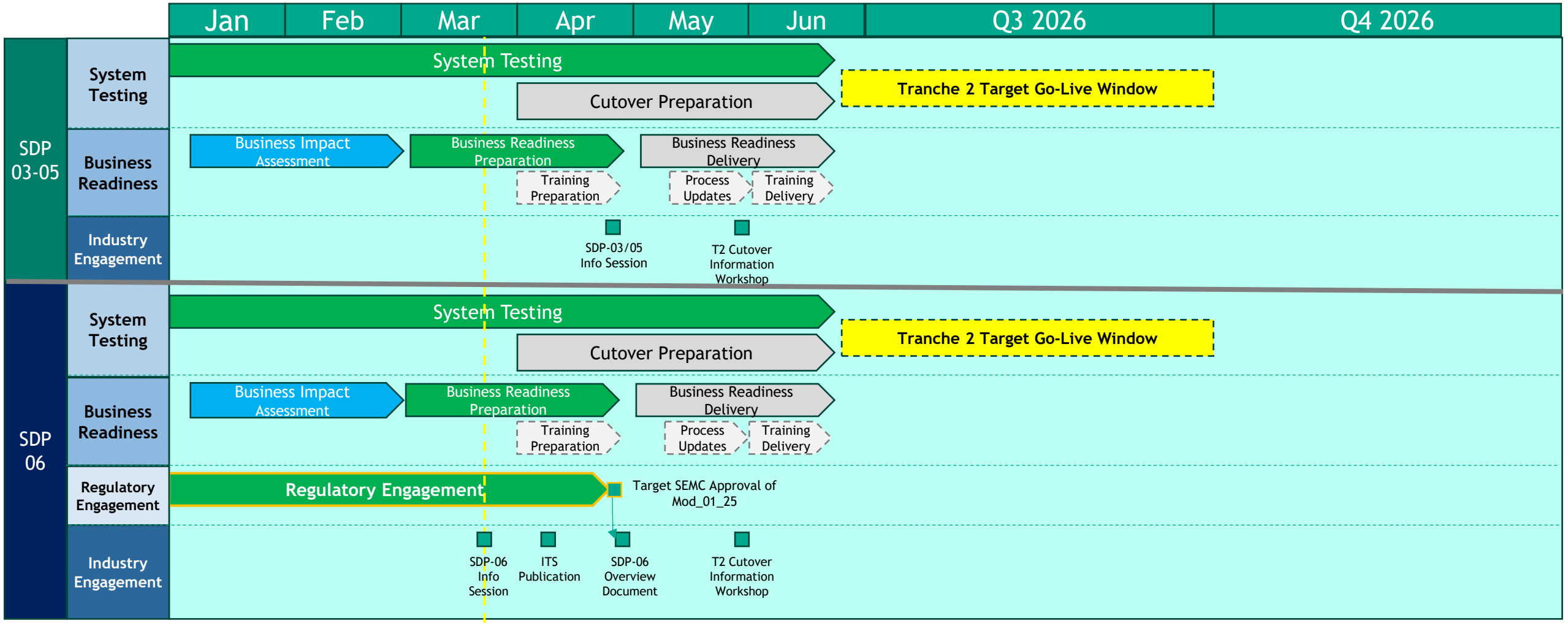
As planned, no issues
Minor - moderate concern
Significant issue / concern
Improving
Steady
Worsening

SDP		Summary Status
Overall Status		The programme continues to progress activities to finalise the delivery plan for the Tranche 2 initiatives with target go-live in Q3 2026. In parallel, onsite testing of the vendor software needed for Tranche 2 is underway with internal business readiness activities commenced. RAs and SEMC assessment of Mod_13_23 Treatment of NPDRs is continuing, with workshops held for the TSOs and RAs to reaffirm shared objectives, ensure alignment and review the modelling approach.
Schedule – Tranche 2		**SDP-03 Fast Frequency Response / SDP-05 Reserve Services** Programme is progressing test execution and detailed planning activity to support the go-live of SDP-03 and SDP-05, with target go-live in Q3 2026. EMS Site Acceptance Testing (SAT) and System Integration Testing (SIT) has been completed, and 'End to End' (E2E) test execution has commenced. MMS SAT testing is also progress as is E2E test preparation. Internal TSO business impact assessment completed with internal readiness activities now commenced. No regulatory engagement is required for SDP-03 and SDP-05 initiatives. **SDP-06 Synchronous Condenser Integration** The programme is progressing test execution and detailed planning activity to support the SDP-06 go-live, with target go-live in Q3 2026. MMS SAT testing is in progress with E2E test preparation also underway. Internal TSO business impact assessment completed with internal readiness activities now commenced. TSO and RAs are engaging on Mod_01_25 and 'Overview of SDP Solution for Synchronous Condensers' document . Targeting approval of Mod_01_25 at April SEMC meeting. Bilateral meetings held with Synchronous Condenser operators to review pre go-live readiness activity. Release O/P ITS/DPUG updates (including SDP-06 technical specifications for synchronous condensers) are being finalised in advance of publication to industry. Tranche 2 initiatives are smaller in scope and will have limited impact on most market participants.
Schedule – SDP-01 NPDR		**SDP-01 Non-Priority Dispatch Renewables** RAs and SEMC are assessing Mod_13_23 Treatment of NPDRs and SEM-24-044 Definition of Curtailment, Constraint and Energy Balancing related to SEM-13-011. To facilitate this assessment, the RAs have requested the TSOs undertake independent modelling. This has progressed through TSO-RA workshops held in January and February. Further TSO-RA engagement ongoing to finalise detailed scope of modelling phase. Once confirmed, TSO will then commence the modelling activity. Further clarity will be provided to industry once complete. The SDP-01 implementation timeline will depend on numerous factors. Detailed planning will follow once the regulatory position is confirmed to define timelines, finalise system design and test, and coordinate the necessary pre go-live activities.
Resourcing		TSO/MO Programme teams are fully staffed.
Finances		SEMC All-Island Programme sub-committee approved the full funding request for the S&D (phases 3-5) programme on 22 March 2024. The programme has completed a review of overall programme costs, and a request for additional funding, through a change request, has been submitted to the Regulatory Authorities.

SDP Tranche 2 - Target Delivery Timeline

The below plan on a page outlines the target delivery timelines for the SDP Tranche 2 initiatives.

Subject to Change Following Completion of Detailed Planning Activity



Key

Complete | In Progress | Not Started

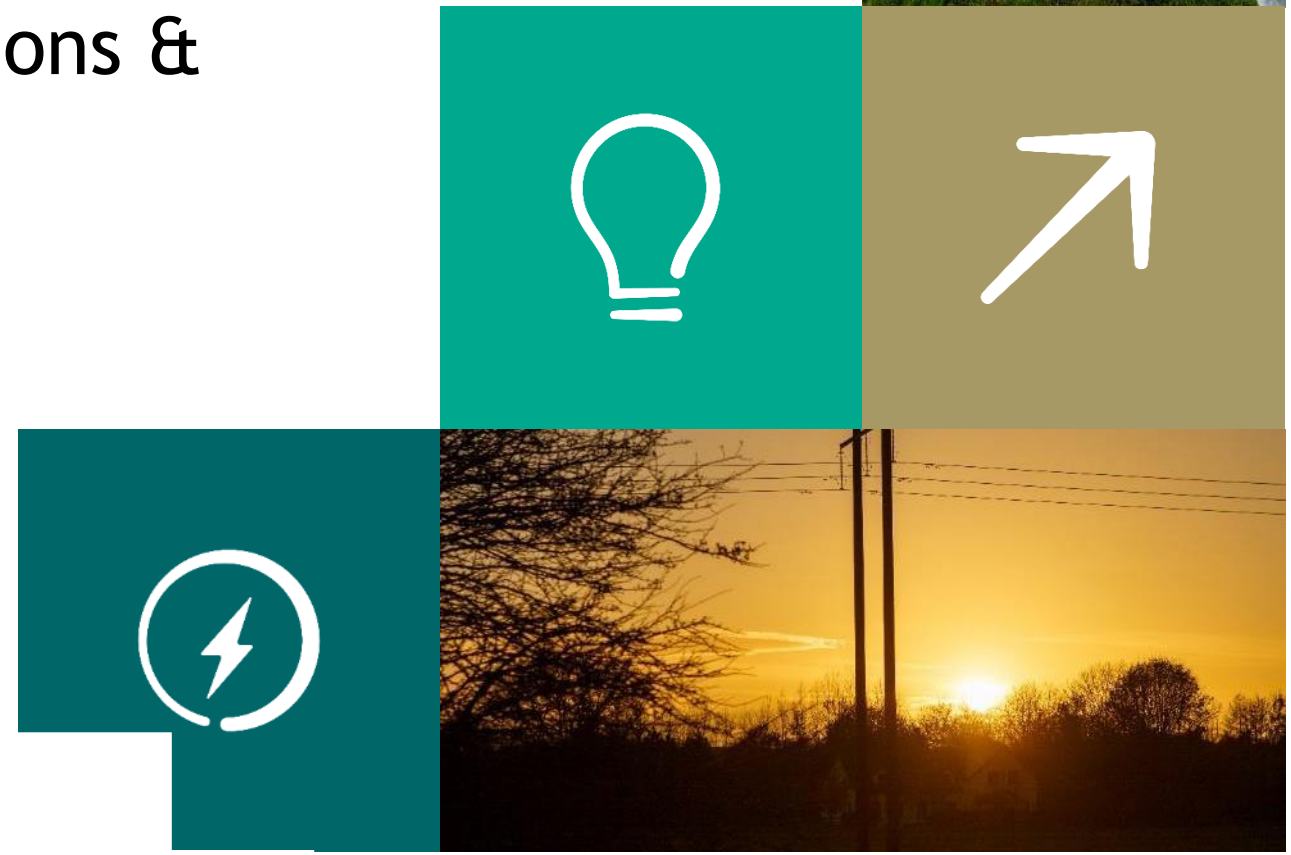
Industry Engagement Milestone

SDP T2 Delivery Plan Notes

- SDP T2 (Release O) and Celtic (Release P) are being delivered on a common code base.

Strategic Markets Programme (SMP)

SEM-EU and Terms and Conditions & Methodologies (TCM) Update



Stephen Douglas

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SMP – EU Integration – Status

As of 12.03.2026

As planned, no issues
Minor - moderate concern
Significant issue / concern
Improving
Steady
Worsening

SMP	Summary Status
Overall Status	A number of requests for market changes are either pending the outcome of an RA decision or due at the end of this month.
Celtic License	Celtic License is now open for consultation until 16 April 2026.
MNA	TSC SEM MNA modification approved at Balancing Market Modifications Committee Meeting on 3 March 2026. Pending RA approval of MNA Terms and Conditions methodology for SEM-France bidding zone border.
SDAC/SIDC	SDAC Request for Change(RFC) has been approved at SDAC Market & System Design (MSD). Validation at the SDAC Quality Assurance and Release Management (QARM) WG is pending. SIDC RfC is planned for submission at the end of March 2026.
Core	Design for Core Hub has started. CCCt design and development ongoing. IGM detailed design is expected to be completed shortly.
Coreso	Common Grid Model Exchange Standard (CGMES) under review. CGMES Individual Grid Model (IGMs) being assessed. Business requirements for central IT tools for Size & Procurement (S&P) tasks being drafted. Interim solution to manually send inputs for Outage Planning Coordination(OPC) and Short-Term Adequacy (STA).
JAO	Business Requirements expected to be completed by the end of March. Congestion Income Distribution (CID) Design Document being reviewed.
Finances	Expect to submit a revised funding application to the RAs in Q2.

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Terms and Conditions or Methodologies (TCMs) Update

TCM	Regulation	Update	Timelines
Long-Term Capacity Calculation Methodology	Forward Capacity Allocation (FCA) Art.10	• Submitted to the Core RAs in Dec 2025. • ACER now consulting on this following escalation by RAs	N/A
Day-Ahead Capacity Calculation Methodology	Capacity Allocation and Congestion Management (CACM) Art. 20	• Submitted to the Core RAs for approval in Dec 2025.	N/A
Intraday Capacity Calculation Methodology	CACM Art. 20	• Submitted to the Core RAs for approval in Dec 2025	N/A
Multi-NEMO Arrangements(MNA) and Clearing & Settlement arrangements	CACM Art. 45, 57 CACM Art.77	• Re-submitted to the RAs in Feb 2026 after Request for Amendment (RfA) received.	N/A
Long-Term Transmission Rights Regulatory Design + Harmonised Allocation Rules Regulatory Annex + Splitting	FCA Art's 16, 31, 52	• Submitted to the Core RAs for approval in early Feb 2026.	N/A
Cost-Sharing (Core) + Regional Design & Coordination Team (Core)	CACM Art 74 & 35+74	• Will be replaced by Central Europe (CE) Cost-Sharing, which is currently being drafted by SG mandate of Italy North (ITN) and Core Regional Operation and Security Coordination(ROSC) merging.	Expected Q1 2027.
Fallback Procedures	CACM Art 44	• High-level planning and analysis underway at EU Level Market Coupling Steering Committee (MCSC). • Addressing TSOs comments from Core Market Working Group (MaWG).	Timeline under review, (likely will be brought forward in 2026).
Regional Operational Security Coordination (CORE)	System Operational Guideline (SOGL) Art 76	• Will be replaced by Central Europe ROSC, which is currently being drafted by SG mandate of Italy North (ITN) and Core ROSC merging.	CE ROSC 1st draft expected Q4 2026 (TBC).

Balancing Market Reform (BMR)

BMR Pillar Status update

Michael Atcheson

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SMP: Balancing Market Reform (BMR)

Initiatives

- Dispatchable Consumption (DCU)
- Demand Response
- Enduring Non-Priority Dispatch Renewable (NPDR)
- Enduring Energy Storage Power Systems (ESPS)

Summary Status

Overall Status

- Internal governance fully established.
- Estimated delivery dates for the BMR initiatives is currently Q1 2029.
- DCU most advanced initiative, with NPDR paused pending clarity and progression of the interim solution.
- Early conceptualisation work underway to understand potential future storage arrangements.

DCU Status

- High Level Requirements have been finalised. TSOs currently engaging with the Regulatory Authorities to agree next steps.
- Engagement will allow for a clearer pathway to implementation, with respect to T&SC modification and corresponding Grid Code modification.

Future Arrangements for System Services (FASS)

Niamh Delaney

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Future Arrangements System Services

As of 19.03.2026

As planned, no issues | Improving
Minor - moderate concern | Steady
Significant issue / concern | Worsening

FASS Summary Status

Overall Status	↑	• Overall programme status remains red, but is trending upwards reflecting progress on critical path challenges. • RA-TSO agreement now reached on path to publication for non-reserves consultation. • Detailed assessment of programme plan (via PIRV4.0) to commence post publication of non reserves consultation. **Path from red to Amber** • Publication of non-reserve services consultation paper. • Mobilisation of TSOs test environments. • Closure of Credit Management procurement. **Path from amber to Green** • Commitment from IT vendors to work to deliver on changes to scope based on SEMC P&S Decision; initial engagement ongoing to identify key updates.
Schedule	→	• Red status, but now steady. Publication of non-reserves consultation 8+ months behind schedule. However, agreement on path to publication has been reached by the RAs and TSOs with final activities now underway to close consultation paper. • Procurement of Secondary Trading Credit Management solution is ongoing. • Licence modifications timelines to be re-baselined to account for delays. • Clarification of programme critical path required to deliver PIR V4.0; detailed re-planning until programme go-live to commence post publication of Non-Reserves consultation paper.
Resourcing	→	• Amber status. Challenges associated with overlapping design activities continue. SME resources are highly constrained and significant resource mobilisation effort needed as programme transitions from design to implementation; Programme replan now progressing to identify gaps in resourcing commitments.
Finances	→	• Formal funding approval letter received from the RAs December 2024.

Key Messages

Key Items for Attention / Discussion

- Schedule for development of System Services code remains challenging, however monthly sessions have restarted to progress development. Timeline for delivery to be reassessed to account for Credit Management vendor procurement.
- Programme replanning activities continue; however, further work required to finalise the timeline for non-reserves activities, credit management procurement and assess impact on the broader programme plan.

Key Upcoming Activities For Action:

- Info. note on Consequential Losses submitted to RAs; Publication pending RA agreement.
- Initiation of IT vendor workshops to impact assess changes in scope following P&S decision.
- Schedule for RA led licence modifications expected soon.
- Procurement activities for credit management solution ongoing.

Positive Developments.

- TSOs' final draft of non-reserves consultation paper shared with RAs 13/03.
- Two SS Code Working Group sessions held in 2026.
- Updates to IT requirements post-P&S decision now circulated to some IT vendors.

Challenges

- Programme critical path challenges remain, and while mitigating actions are progressing, further effort needed to assess viable programme timeline.
- Resourcing remains challenging due to delays incurred by programme to date which are leading to overlapping workstream activities.

Technical Liaison Group (TLG)

Eoin Farrell

Technical Liaison Group (TLG)

- Future Markets (FM) is progressing planning for initiation of the Technical Liaison Group (TLG) industry forum.
- Targeting first ‘kick-off’ TLG meeting w/c 20th April (online).

- TLG Terms of Reference and first meeting details will be shared with industry via market message.
- TLG membership/attendance is not mandatory, however it is encouraged that Market Participants have sufficient representation relevant to their organisation.

- The TLG will serve as a central forum for collaboration on technical matters, including but not limited to:

1. Technical Specifications
2. Data Publication Guides
3. IT Connectivity Verification
4. Industry Testing

EirGrid Long Duration Energy Storage (LDES)

Mo Cloonan

EirGrid

LDES - EirGrid

Work is ongoing on finalising a procurement approach recommendation paper that will inform the CRU decision paper

Contractual consultation will follow.

Aiming to ensure contractual consultation, associated recommendation paper and CRU decision paper on the contractual aspects will be finalised by the end of 2026

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Flexibility Needs Assessment (FNA)

Mo Cloonan

Flexibility Needs Assessment (FNA)

Reminder: What is it?

- Obligation under EU Regulation to assess national flexibility needs (system and network) over the next 5-10 years.
- ACER-approved standardised methodology[1] for all EU member states (incl. Northern Ireland).
- CRU and UR are the Designated Entities responsible for the delivery of the IE and NI reports.

Current status:

- TSOs and DSOs responsible for delivery of data and analysis to RAs in line with the methodology.
- All-island model: Facilitates alignment between RAs and TSOs on modelling approach, assumptions, inputs and outputs.
- Modelling currently in progress and on track; no results ready to share publicly yet.
- Also currently assessing the market barriers to flexibility in the SEM.
- Regular coordination with RAs and DSOs ongoing.

Next steps:

1	**25 May 2026**	• Deadline for TSOs and DSOs to have delivered all data and analysis to the RAs.
2	**25 July 2026**	• CRU and UR to publish and deliver the final FNA reports to the European Commission and ACER.
3	**25 Jan 2027**	• IE and NI to define an “indicative national objective for non-fossil flexibility” incl. contributions of demand response and storage. FNA reports to be used as a basis for this objective.
4	**Date TBC**	• Flexibility support scheme to be launched if deemed necessary to meet the national objective.
5	**July 2027**	• Start analysis for the second FNA to be delivered in July 2028 and then every two years thereafter.

1. Publicly available for review: https://www.acer.europa.eu/flexibility

Welcome!

Claire Kane
Head of Settlements, Registrations &
Stakeholder Engagement

EirGrid SONI semo Single Electricity Market Operator

John Tracey

Smart Meter Issue & Impact on SEMO

March 2026

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Summary of Issue

The Meter Data Provider supplied SEMO with significantly inaccurate meter data for three Indicative days (6th, 7th and 8th March).

MDP Update: *"There was an AMI upgrade over the weekend ….., with the system off line from Friday – early Monday morning. Unfortunately there was a problem when we brought the system back on line which has impacted approx. 270k Smart meter customers"*

This inaccurate data caused the required collateral amounts in market credit reports to rise by ~€2 billion for a small number of ROI participants.

Although the Initial meter data showed significant improvement, the files were still materially inaccurate, with an estimated financial impact of €15 – €20 million.

As a result, SEMO decided to delay the publication of the Settlement Document due to be published on 13th March and requested corrected meter readings from MRSO. The Initial meter data for 4th and 5th March was also affected.

Date	Participant Breaches	Market Required Collateral
06/03/2026	1	€191,397,023
10/03/2026	11	€2,169,284,528

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Impact to Market Settlement

- Settlement Document delayed, published on 19/03/26 instead of 13/03/26
- Six Initial runs (6th – 11th March) published later than scheduled
- Three credit reports not issued (one from 09/03/26 and two from 10/03/26)
- Ongoing manual credit review, with the credit team issuing “disregard breach” emails to affected Participants
- Additional ad hoc resettlement run required for 01/03/26 – 07/03/26, to be included in the Settlement Document on 27/03/26
- Multiple Market Messages issued
- Numerous Participant queries received
- Five individual Participant calls were held to walk through the issue
- Once the Settlement Document is issued on 27th March, SEMO expect the matter to be resolved

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Impact on Settlement Credit Reports

SEMO did not publish three credit reports over 9th and 10th March due to the incorrect meter data received.

The metering issue mainly affected one component of the credit calculation, Actual Exposure for ROI Suppliers, while all other elements (Traded Not Delivered, Undefined Exposure, and Fixed Credit) continued to calculate as normal.

SEMO Settlements credit team implemented an additional review process for any Participants who received a breach notice.

During this manual review, SEMO excluded the impacted days with incorrect metering:

- 4th – 8th March from 10/03/26 – 19/03/26
- 4th – 5th March from 19/03/26 – 27/03/26

After excluding the impacted days, the credit team would issue a “disregard email” if the reviewed Required Collateral was below Posted Collateral.

In total, SEMO has issued 93 disregard emails since 10th March to 14 different Participants.

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Welcome!

Nigel Thomson
Head of Market Operations

Breakout Sessions – Showcase Topics

Slido Code: FMMOUG

Breakout Sessions - Showcase Topics

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	Rotation 2: 12:15 - 13:00	Same as Rotation 1	

25/03/2026

SEMOpx Breakout Session

Slides will be sent directly to SEMOpx members

Contact SEMOpx mailbox for any queries

Info@semopx.com

Market Operator User Group MOUG – SEMO Update

25th March 2026

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Agenda

Agenda Items	Presenters
Trading Overview	Michael Rainey
Settlements	John Tracey
Introduction to the Balancing Market	Michael Rainey/David Conway

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Imbalance Pricing and Repricing

- **Repricing Status**
- The **Balancing Market Repricing Calendar** has been published, including the most recent updates to the repricing schedule.
- The first repricing event was successfully completed on 19th March 2026.
- Additional repricing dates will be confirmed and communicated through market messages in advance.

- **Upcoming Imbalance Pricing Outage**
- A Balancing Market Outage is scheduled for **26 March 2026** from **14:30 GMT – 15:30 GMT**.
- Balancing Market Interface not available and Imbalance Pricing offline.

Repricing Calendar

Calendar Day	Imbalance Settlement Period(s)	Billing Period End Date	Manifest Error ID	Materiality Assessment	Reprice Publication Date[1]
10/09/2024	02:30 to 11:30	14/09/2024 (Week37)	RPC4	06/02/2025	13/02/2025
30/09/2024	18:00 to 00:00	05/10/2024 (Week40)	RPC10	13/02/2025	20/02/2025
01/10/2024	00:00 to 00:30	05/10/2024 (Week40)	RPC10	Price Threshold Not Met	Not Required
13/12/2024	23:30 to 00:00	14/12/2024 (Week50)	RPC4	Price Threshold Not Met	Not Required
14/12/2024	00:00 to 08:30	14/12/2024 (Week50)	RPC4	26/03/2025	03/04/2025
17/12/2024	15:00 to 15:30	21/12/2024 (Week51)	RPC11	Date to be confirmed	Date to be confirmed
30/04/2025	10:30 to 17:00	03/05/2025 (Week18)	RPC4	12/03/2026	19/03/2026
09/05/2025	08:30 to 00:00	10/05/2025 (Week 19)	RPC4	12/03/2026	19/03/2026
10/05/2025	00:00 to 00:00	10/05/2025 (Week 19)	RPC4	19/03/2026	26/03/2026
11/05/2025	00:00 to 00:00	17/05/2025 (Week 20)	RPC4	Price Threshold Not Met	Not Required
12/05/2025	00:00 to 00:00	17/05/2025 (Week 20)	RPC4	02/04/2026	09/04/2026
13/05/2025	00:00 to 00:00	17/05/2025 (Week 20)	RPC4	Date to be confirmed	Date to be confirmed
14/05/2025	00:00 to 00:00	17/05/2025 (Week 20)	RPC4	09/04/2026	16/04/2026
15/05/2025	00:00 to 01:00	17/05/2025 (Week 20)	RPC4	Price Threshold Not Met	Not Required
17/06/2025	09:00 to 13:00	21/06/2025 (Week 25)	RPC4	Date to be confirmed	Date to be confirmed
03/07/2025	12:00 to 14:30	05/07/2025 (Week 27)	RPC4	Date to be confirmed	Date to be confirmed
27/11/2025	11:30 to 12:30 14:30 to 21:00	29/11/2025 (Week 48)	RPC12	Date to be confirmed	Date to be confirmed
31/12/2025	00:00 to 00:00	03/01/2026 (Week 1)	RPC4	Date to be confirmed	Date to be confirmed
01/01/2026	00:00 to 08:30	03/01/2026 (Week 1)	RPC4	Date to be confirmed	Date to be confirmed

[1] *Where the materiality assessment has determined that the Price Materiality Threshold has not been met; the Repricing Publication Date will be reflected as 'Not Required'.*

Balancing Market Repricing Calendar

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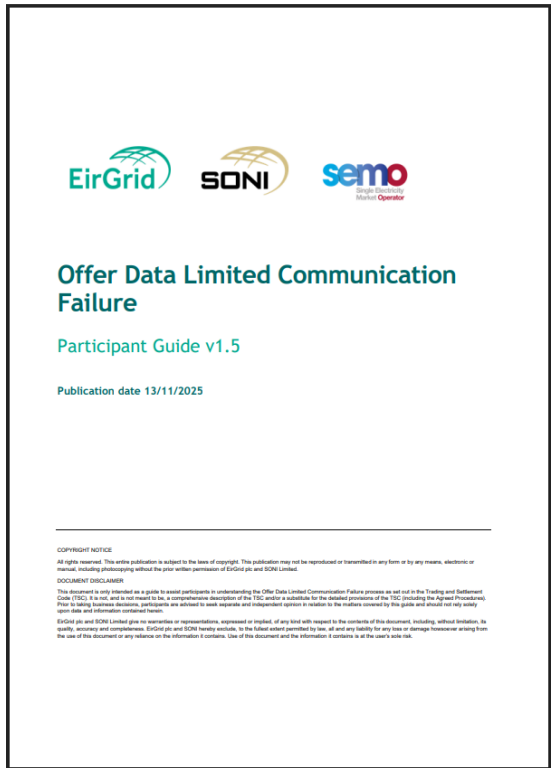
Limited Communications Failure - Clock Change

The summertime clock change occurs on **29 March 2026.**

Participant Guides

The Limited Communication Failure (LCF) Participant Guides have been consolidated into one single document. The Short Day Guide is included in Appendix B.

- Limited Communication Failure Participant Guide



LCF Short Day Tool

- **LCF Short Day Tool** will be published ahead of the clock-change.
- **Battery Storage Units** now included post-Release N.

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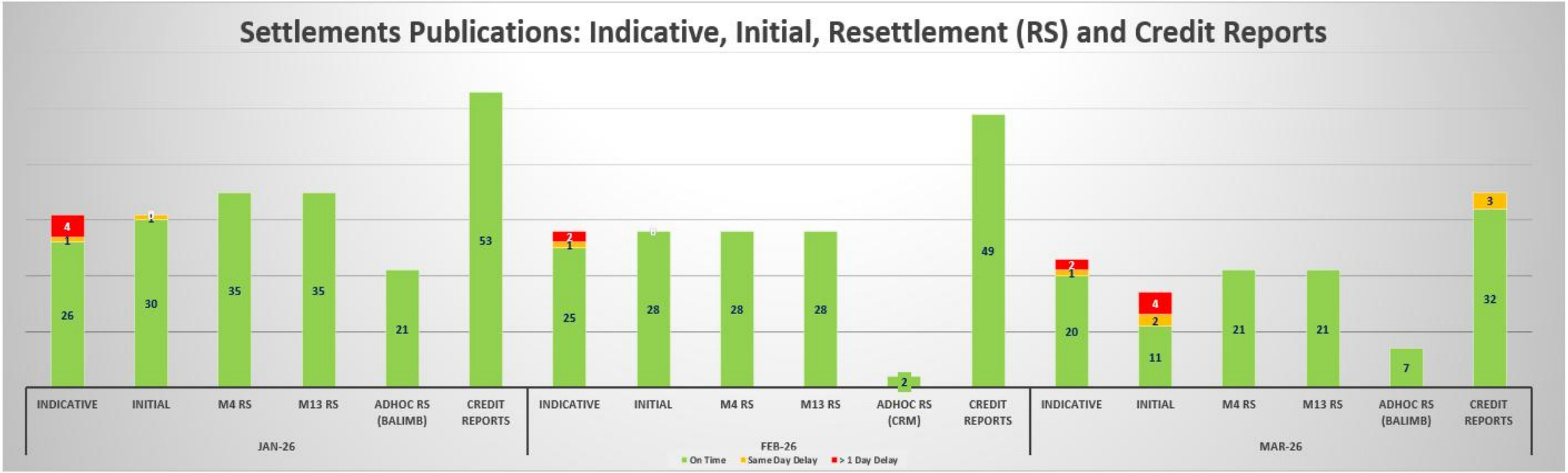
Settlements

John Tracey

Settlement Publications & Timelines: 1st January 2026 – 23rd March 2026



January 2026

- **200** settlement publications on time
- 3 delayed Indicatives due to late receipt of data and 2 due to Instruction Profiler Issue
- 1 delayed Initial due to Instruction Profiler Issue

February 2026

- **160** settlement publications on time
- 2 delayed Indicatives due to late receipt of data and 1 due to Instruction Profiler Issue
- No delays for Initial publications
- 2 capacity months published for Ad-Hoc

March 2026

- **112** settlement publications on time
- 2 delays due to slower than usual processing times and 1 delayed Indicative due to late receipt of data
- 6 delays Initials due to MDP Data Issue
- 3 Credit Reports not published due to MDP Data Issue

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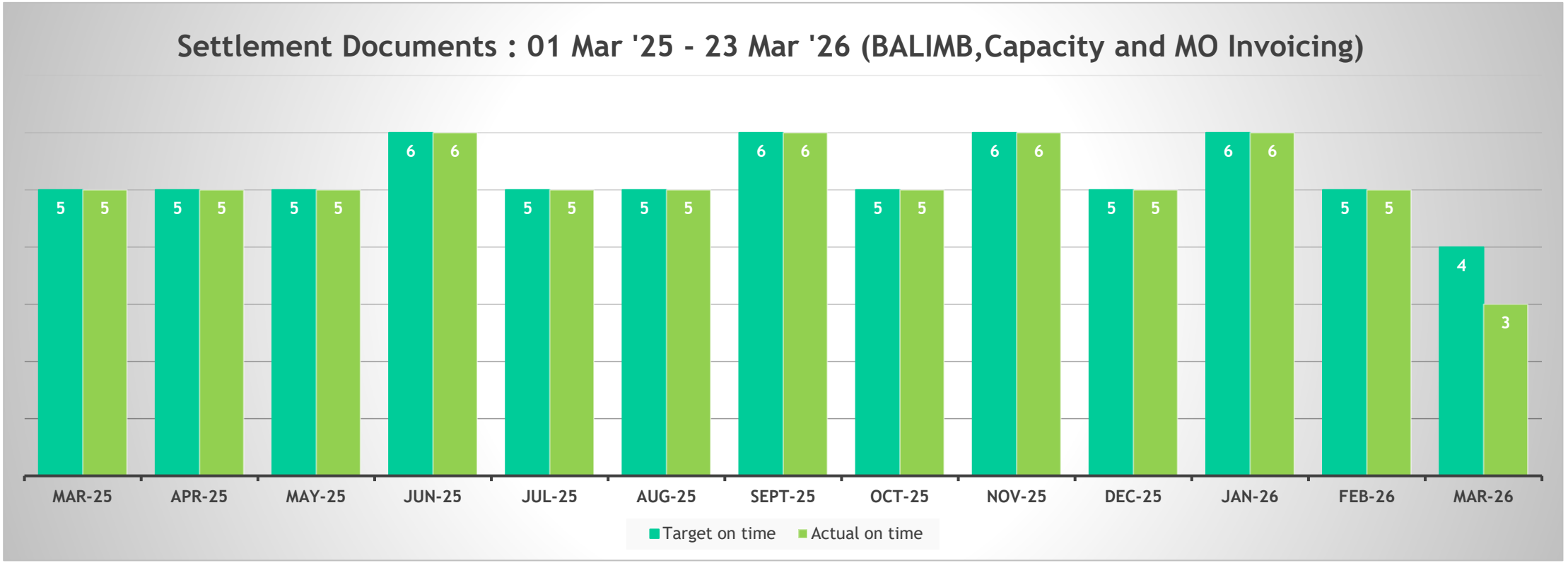
Settlement Documents Publications



Settlement Document updates:

- **67** Settlement Documents (SDs) published on time between 1st March 2025 and 23rd March 2026 (includes BALIMB, Capacity and MO Invoices). One delayed Settlement Document on 13th march due to MDP Data Issue.

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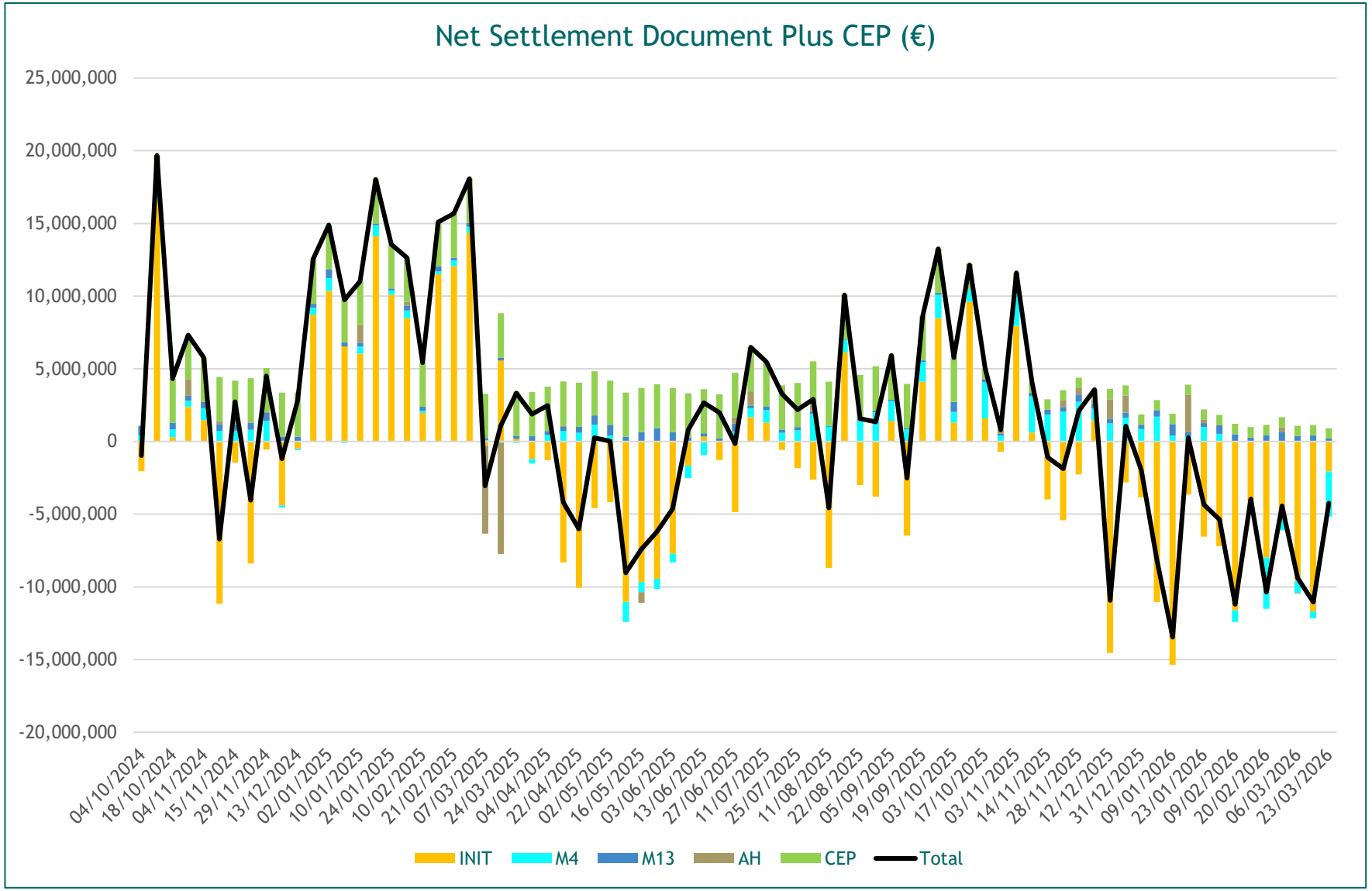
Net Settlement Document & Clean Energy Package

- The summation or net of all published Settlement Documents (SD) plus the cost of the Clean Energy Package (CEP) from start of October 2024 to date is ~€153M:

➢ -€22M from SD's

➢ €175M from CEP

- Largest swings in Prices from 24/25 to 25/26 (€ per MWh)
- PIMP: Imperfections Price increase by 36.3% (€14.62 to €19.93)
- PCCSUP: Supplier Capacity Charge Price decreased by 14.9% (€21.23 to €18.07)
- PREV: Residual Error Volume Price changed from a payment to a charge (€0.46 to -€1.83)
- CEP has also reduced in 25/26 compared to 24/25 (~€3M p w to ~€0.7M pw)



Positive values = Payments out by SEMO
Negative value = Payments due to SEMO

Settlement Documents to issue Friday 27th March 2026

Settlement Calendar (sem-o.com)

Settlement Document for Friday 27th March
Initial BALIMB - (15/03/2026 - 21/03/2026) - Week 12 2026
M+4 BALIMB - (23/11/2025 - 29/11/2025) - Week 48 2025
M+13 BALIMB - (23/02/2025 - 01/03/2025) - Week 09 2025
Ad-hoc BALIMB - (01/03/2026 - 07/03/2026) - Week 10 2026

Weekly Strike Price (PSTRw)

- The PSTRw continues to be calculated every Thursday afternoon for application to the upcoming billing week. For the current billing week (22/03/26 – 28/03/26), the PSTR increased from €500 to €525.22.

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Introduction to the Balancing Market

25th March 2026

DOCUMENT DISCLAIMER

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Balancing Market Introduction

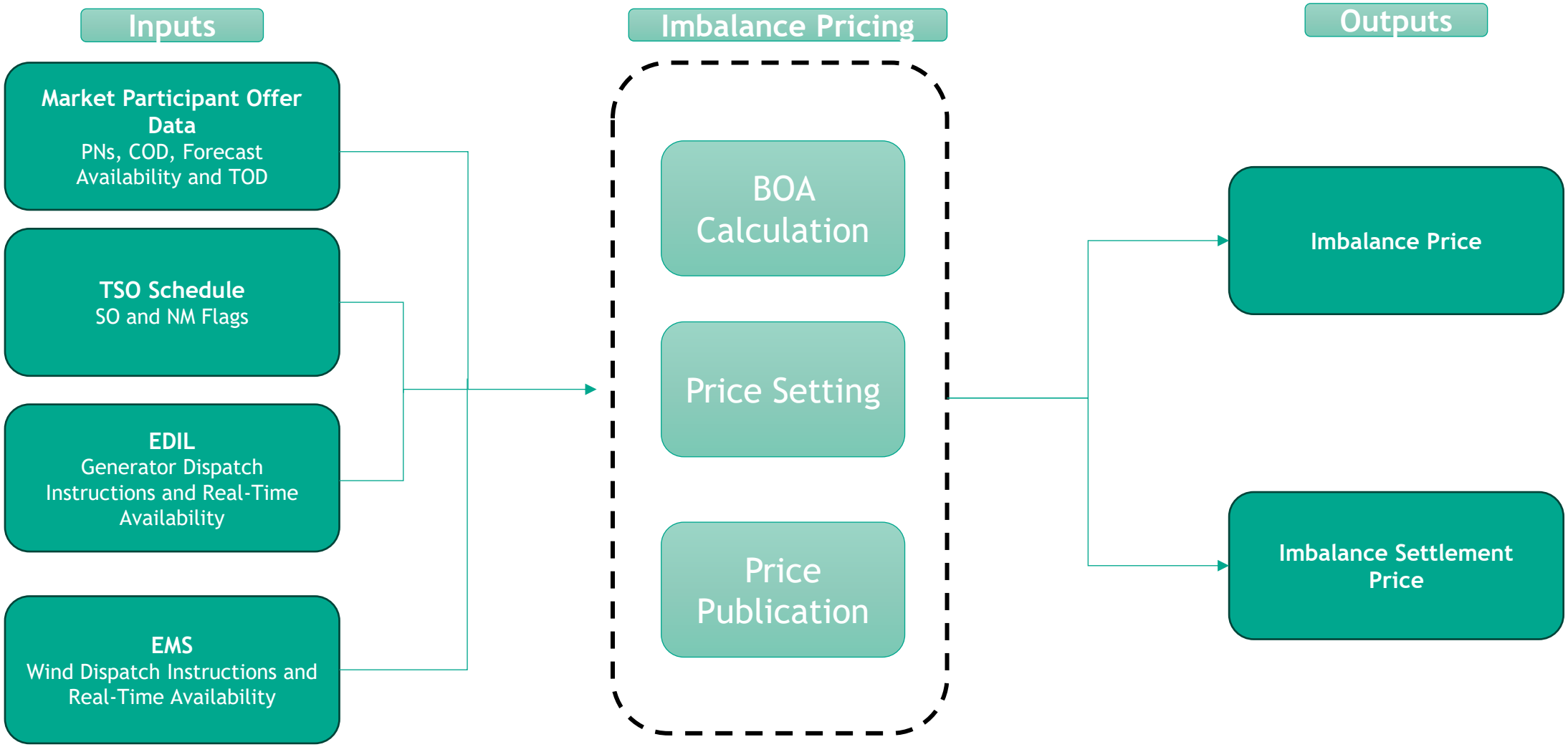
- The Balancing Market reflects **balancing actions taken by the TSO (EirGrid/SONI)** to keep the electricity system balanced in real-time.

- Balancing actions represent deviations from a market participant's market schedule, taken by the TSO to maintain **real-time system balance in response to changing conditions (energy actions)** and to ensure the transmission grid remains **safe, secure and reliable (non-energy actions).**

- The Balancing Market contains **288 5-minute Imbalance Pricing Periods** each trading day, which are averaged into **48 30-minute Imbalance Settlement Periods** for settlement purposes.

- The submission window for data opens **19 days ahead of the trading day (D-19).** Following that there are two gate closures:
    - Gate Closure 1 (13:30 DST on D-1)
    - Gate Closure 2 (T-1 Hour on D)

Balancing Market Feeds and Offer Data



TSO schedules and dispatch

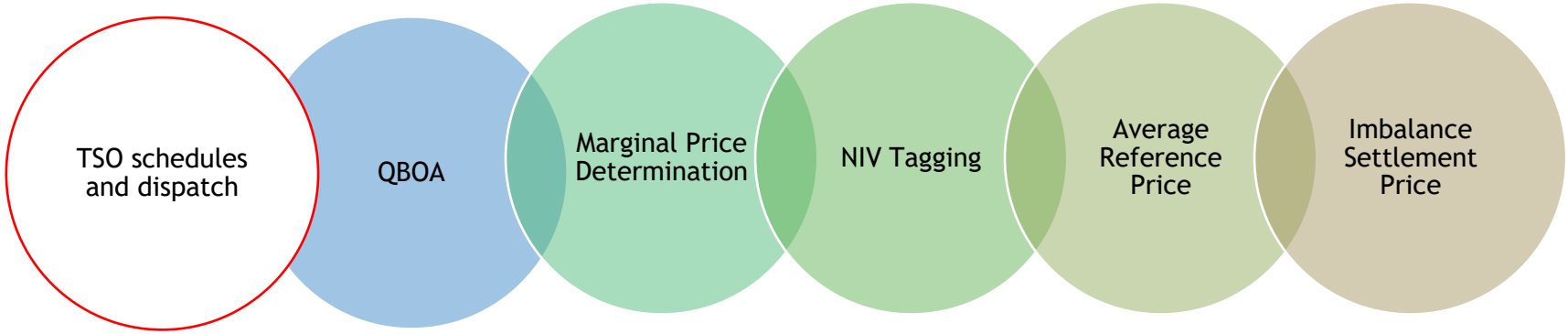
In the Balancing Market, the TSO schedule determines both the System Operator (SO) Flags and Non-Marginal (NM) Flags:

System Operator Flags

- The SO Flagging process identifies whether balancing actions were **taken for system reasons**, such as a binding network or operational constraint.
- SO Flagging helps to minimise the extent of non-energy actions influencing or setting the Imbalance Price.

Non-Marginal Flags

- The NM Flagging process identifies if a unit's scheduled output is at its Lower Operating Limit, Maximum Generation or ramp constrained.
- If any of the above criteria is met, the balancing action will be NM Flagged in the corresponding Imbalance Pricing period.



SO and NM Flags

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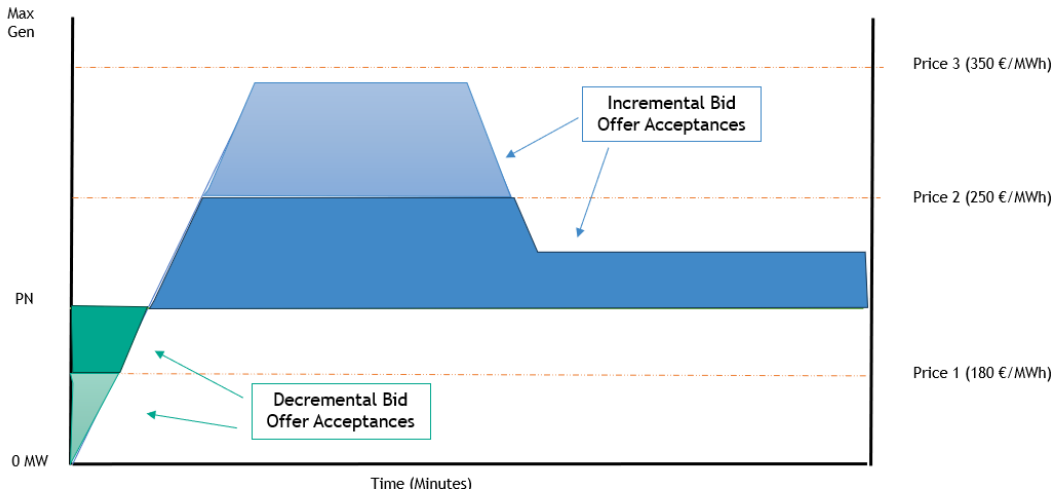
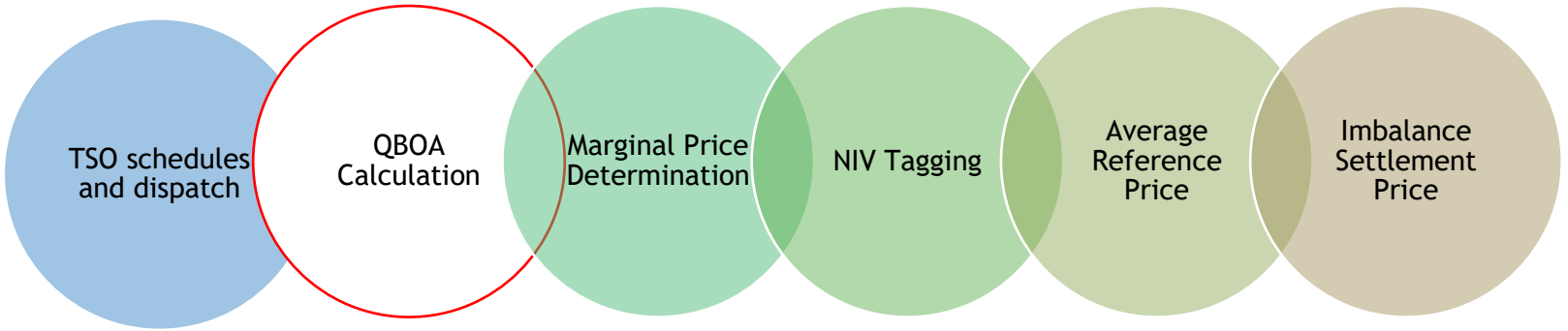
Calculation of BOAs and NIV

- Bid Offer Acceptances (BOAs) represent the difference between a unit's PN and TSO dispatch.
- BOAs contain two elements; the price element (PBOA) and a quantity element (QBOA).
- The Net Imbalance Volume (NIV) is the net of all balancing actions greater than 2 MW (De-Minimis Acceptance Threshold):
    - If QNIV is negative, there is surplus generation vs demand.
    - If QNIV is positive, there is insufficient generation vs demand.



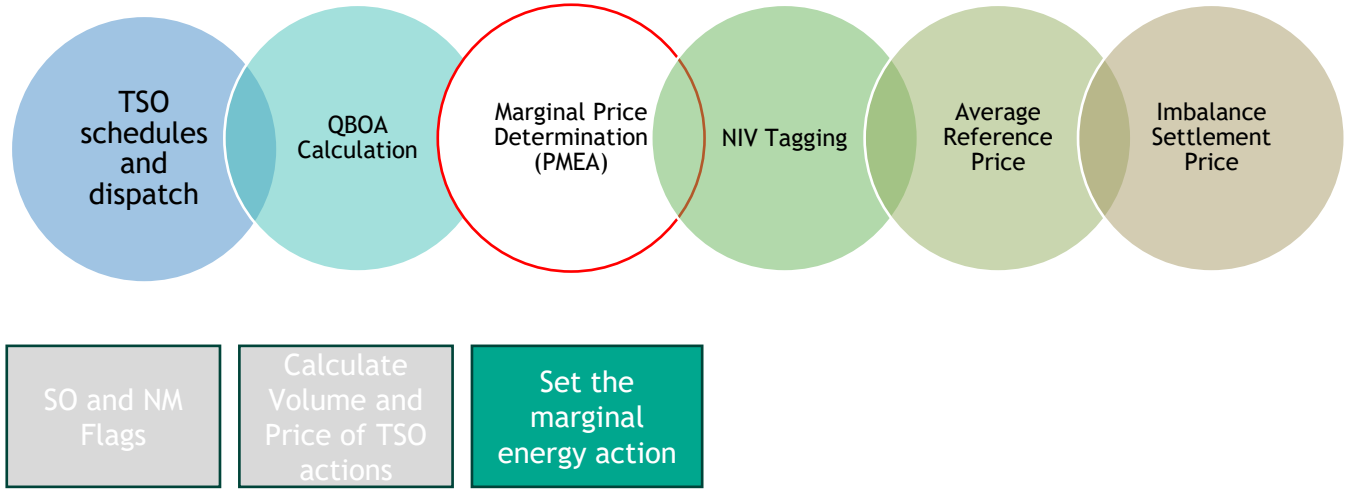


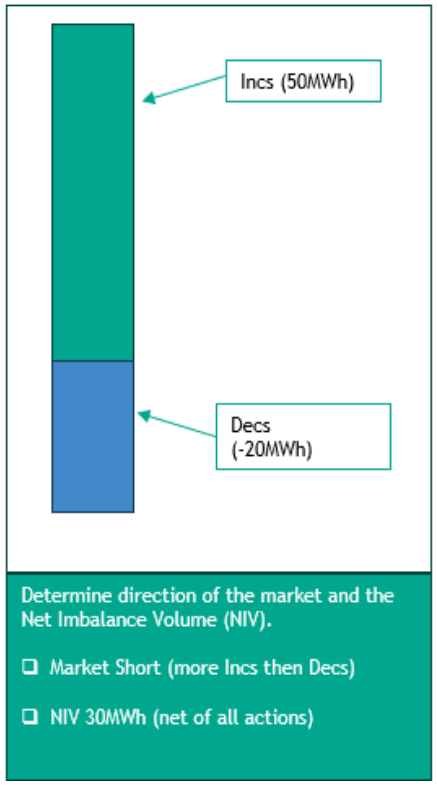
SO and NM Flags

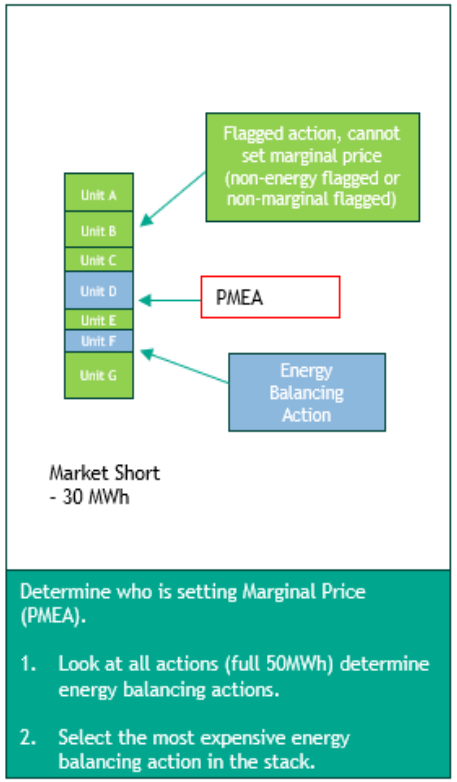
Calculate volume and price of TSO actions

Imbalance Price Tagging – PMEA and PRBO

- The Price Marginal Energy Action (PMEA) is set by the most expensive unflagged action when the market is short and the least expensive unflagged action when the market is long.
- Under the Price Replacement Bid Offer (PRBO) process, any actions which have less economic prices than PMEA have their prices replaced by the PMEA for the remainder of the process.







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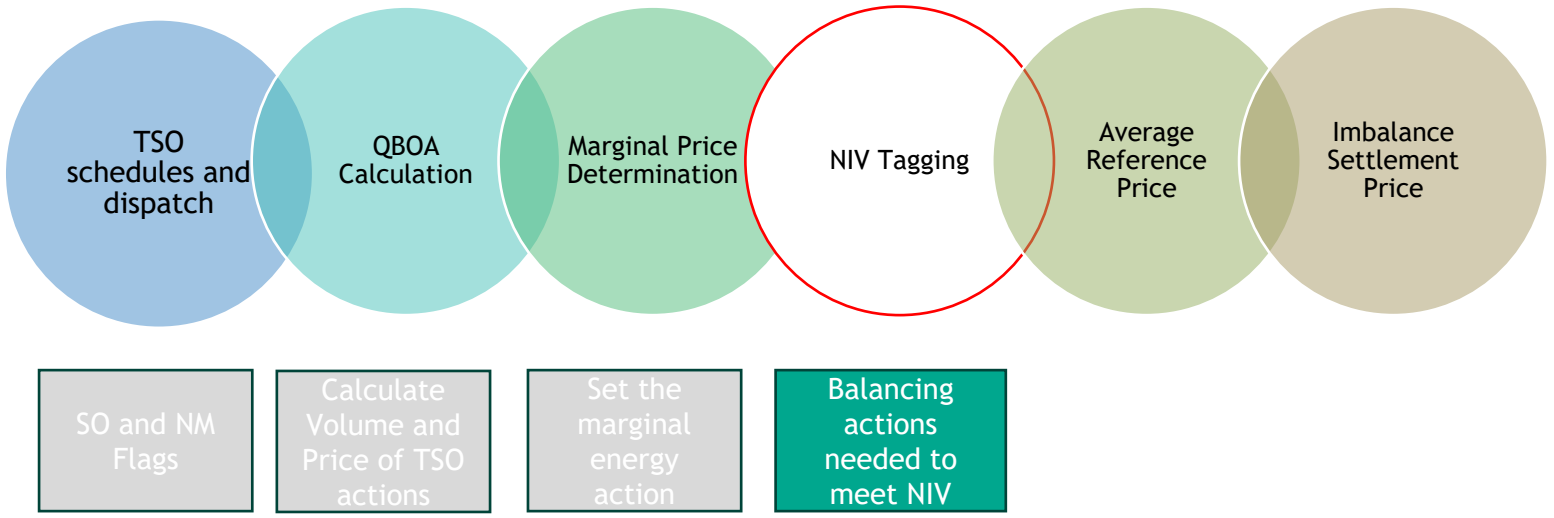
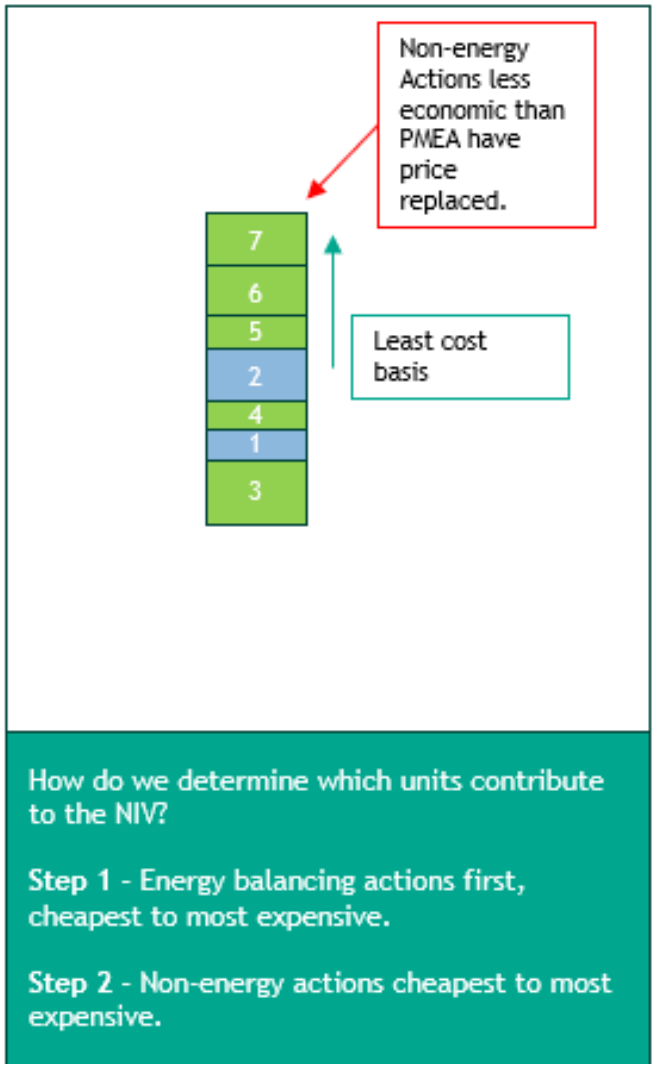
Imbalance Price Tagging - NIV Tagging

- Net Imbalance Volume (NIV) Tagging identifies the actions used to meet the NIV and determines which of those actions can contribute to the final Imbalance Price.
- It first removes opposite-direction and SO/NM flagged actions and then reinstates any in-merit actions needed so that the remaining actions exactly meet the NIV.





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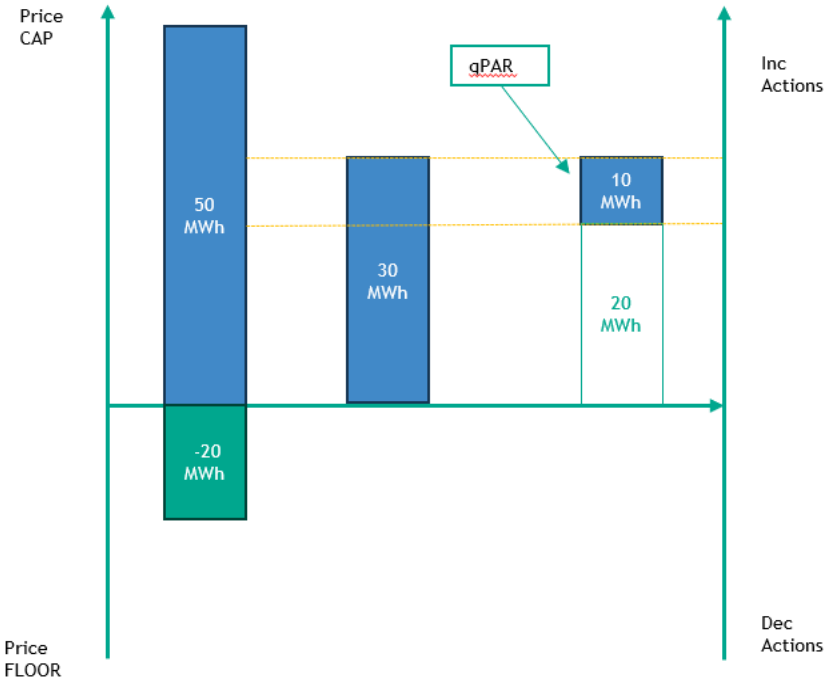
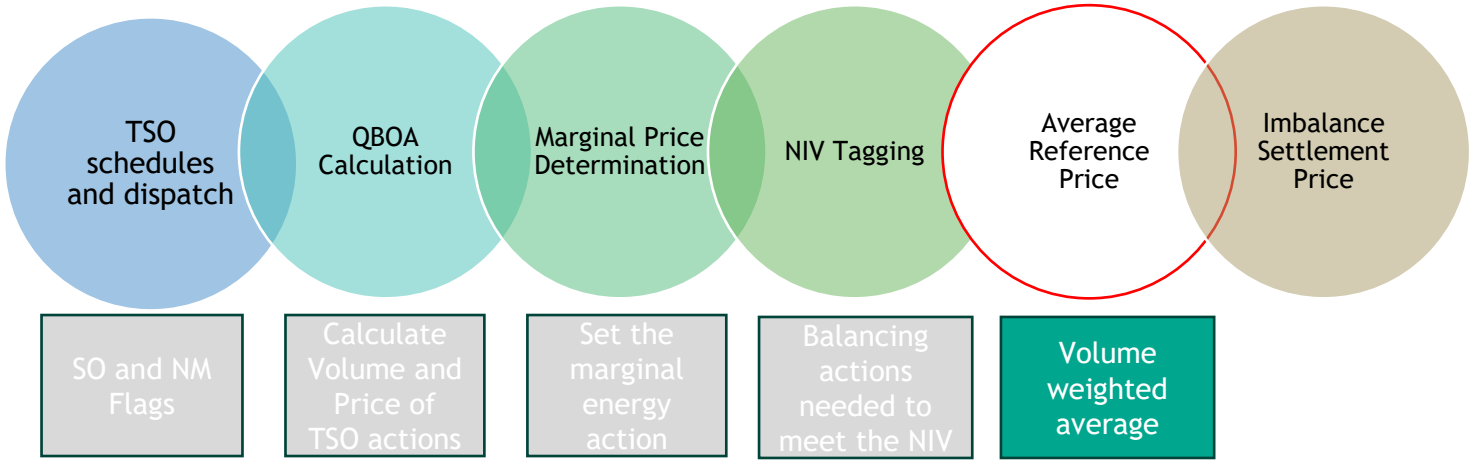
Imbalance Price Tagging - PAR Tagging

- This is the final stage in the calculation process.
- Price Average Reference (PAR) Tagging involves taking a volume weighted average of the most expensive (market short)/least expensive (market long) prices over a defined volume (10 MWh).
- The defined volume is known as the qPAR.





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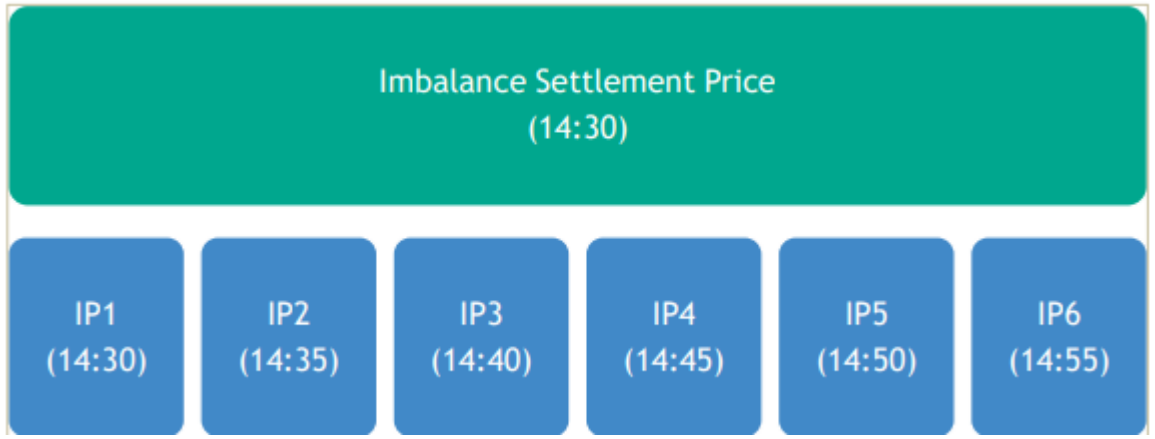
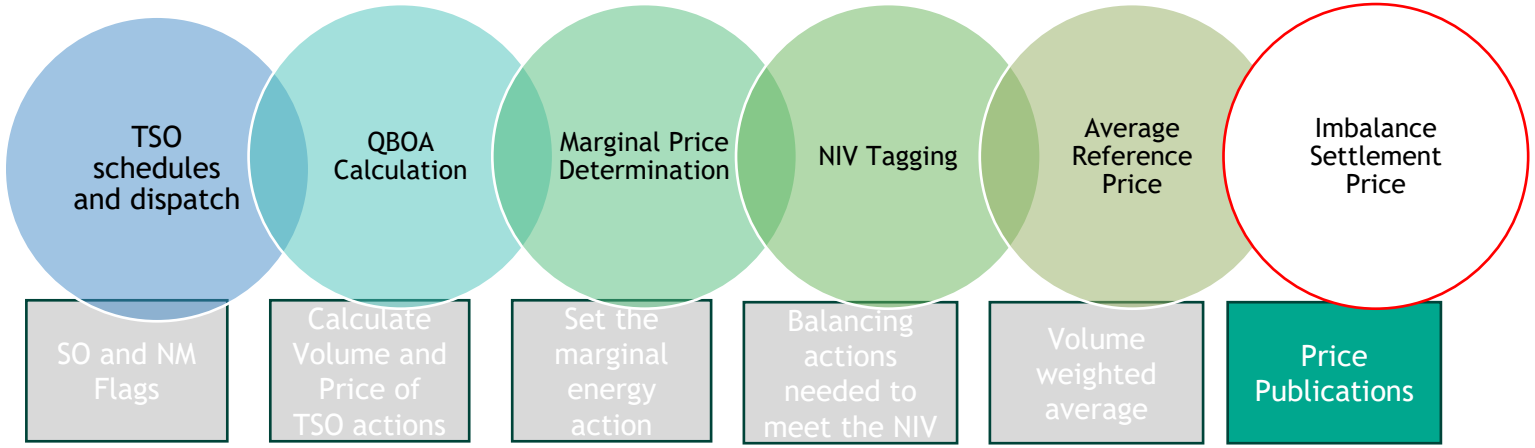
Imbalance Price and Imbalance Settlement Price Publication

- 288 Imbalance Prices calculated at T-20mins.
- These are averaged into 48 Imbalance Settlement Prices.
- The Imbalance Settlement Price is the final price used for Settlement of the Market.





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Introduction to Balancing Market Settlement

- Various charges and payments are made based on:
- how units **traded** in the Ex-Ante Markets
- how they were **dispatched** by the Control Centre
- how they **performed** / their **actual output**

- **Imbalance Settlement Period (ISP)**
- Balancing Market Settlement is conducted at a 30-minute granular level (ISP).
- External Data is provided to SEMO which is applied within the appropriate Balancing Market components for settlement purposes.
- BM settlement components are outlined within the Trading & Settlement code.

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Balancing Market Settlement – Controlled Inputs (MO, TSO, PT)

- **QEX** (Ex-Ante Quantity) - calculated based on a unit's trades in the Ex-Ante markets.
- **FPN** (Final Physical Notification) - the intended output of a unit which should reflect their traded position.
- QAA (Actual Availability) - the maximum available MW output of a unit.
- **DQ** (Dispatch Quantity) - calculated based on Dispatch Instructions and profiled using a unit's TOD set.
- **QM** (Metered Quantity) – represents a unit's actual output as submitted by Meter Data Providers.
- **PIMB** (Imbalance Price) - primary price used for settlement in the Balancing Market.
- **QBOA** (Bid Offer Acceptance Quantity)
    - **QAO** (Accepted Offer Quantity) - quantity calculated if a unit is dispatched **above** its FPN.
    - **QAB** (Accepted Bid Quantity) - quantity calculated if a unit is dispatched **below** its FPN.
- **PBOA** (Bid Offer Acceptance Price) - price associated with a QBOA. Prices for incremental/decremental actions as submitted in a unit's Commercial Offer Data (COD).

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Balancing Market Settlement - Non-controlled Inputs

- The yearly tariffs for the SEM are ratified by the SEM Committee and are based upon approved revenues.
- These tariffs are applied to the Trading & Settlement Code and are subject to change annually.
- The applicable tariffs are mainly applied based upon the financial market year (1st of October until 30th of September) however some are based upon calendar year.
- The ratified tariff values are applied and accounted for within the Balancing Market settlement components.
- In addition to annual tariffs, RA decisions within the Retail Market requirements can also have a direct relatable impact on Balancing Market settlement (eg. CRU decision 202454 – application of microgeneration data).

Parameters	Component
RMVIP	CREV
PREV	CREV, CCAP
TOLENG	CUNIMB
TOLENG (WF & PV specific value)	CUNIMB
TOLMW	CUNIMB
FUREG	CUNIMB
FDOG	CUNIMB
FPUG	CUNIMB
PIMP	CIMP, CCAP
PCC	CCA, CCAP
FCCA	CCA
PTESTTARIFF	CTEST
FCARBONING	PSTRw
FCARBONIO	PSTRw
FTHEORYPU	PSTRw
PTHEORYDSU	PSTRw

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Balancing Market - Settlement Components

Generation

Imperfections

- CPREMIUM
- CDISCOUNT
- CFC
- CUNIMB
- CAOOPO
- CABBPO
- CCURL
- CTEST

Energy/Imbalance

- CIMB

Demand (Suppliers)

Tariffs

- CIMP
- CREV
- CCA

Energy/Imbalance

- CIMB

*The above lists do not cover all BM components.

CIMB – Imbalance Payment or Charge

- **Payment or Charge:** can be either
- Every unit in the balancing market can receive CIMB payments / charges if there is an imbalance between a unit's metering (QM) and traded volumes (QEX).
- Difference between a unit's QM and QEX is settled at the Imbalance Price (PIMB).

$$CIMB_{u\gamma} = PIMB_{\gamma} \times \left(QMLF_{u\gamma} - QEX_{u\gamma}\right)$$

- There are different versions of the CIMB calculation, but most units are settled with the above calculation.
- For some units, this is the only settlement of this difference in quantities, but for imbalances on Generator Units, there can be adjustments through the Premium or Discount Payments which ensure that net settlement at the better of the Bid Offer Price or the Imbalance Price.

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CPREMIUM

- **Payment or Charge:** Payment for being dispatched above FPN
- **Why it applies:**
    - When a unit is dispatched above their FPN, they will be paid in CIMB (as Meter Quantity will be greater than Ex-Ante Quantity).
    - CPREMIUM is a “top up” payment – ensures that any unit whose PBOA > PIMB gets an additional payment so that net settlement (through CIMB and CPREMIUM) is at the PBOA.
- **Main inputs:** PBOA_QAO, PIMB, QAO

$$CPREMIUM_{u\gamma} = \sum_{o}\sum_{i}\Big(Max\big(PBO_{u\beta oi\gamma} - PIMB_{\gamma}, 0\big) \times \Big(QAOLF_{uoi\gamma} - Max\big(QAOOPOLF_{uoi\gamma}, QAOBIAS_{uoi\gamma}, QAOUNDEL_{uoi\gamma}, QAOTOTSOLF_{uoi\gamma}\big)\Big)\Big)$$

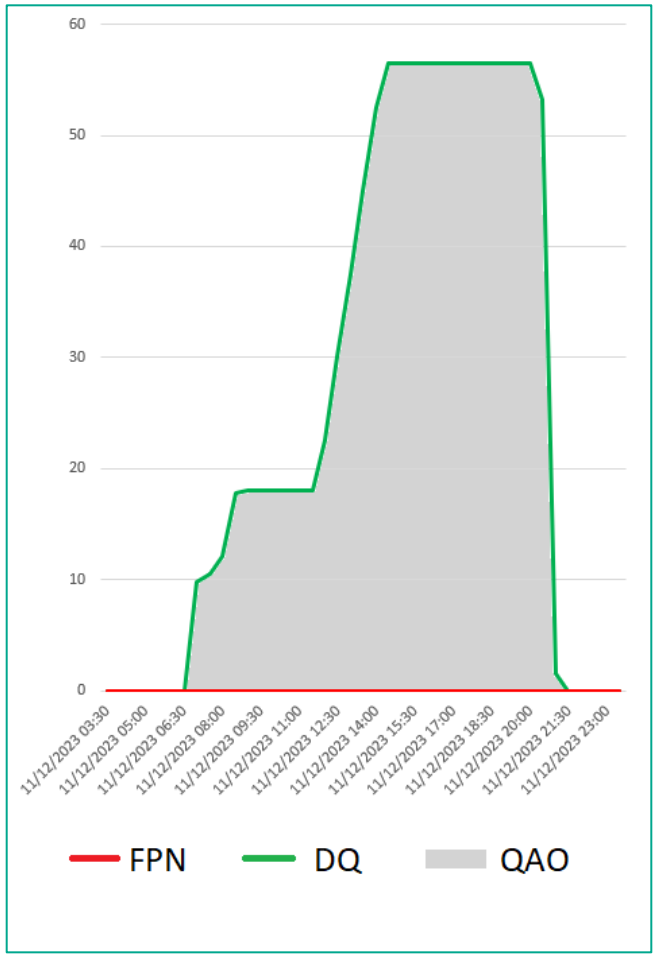
CPREMIUM

QAO (Accepted Offer Quantity)

- Positive quantity calculated when a unit is dispatched to a level greater than it's FPN.
- Also referred to as an incremental action.
- Settled at the difference between PBOA_QAO and PIMB.

PBOA_QAO (Bid Offer Price)

- Price associated with an Inc action as submitted by the participant in their Commercial Offer Data.
- Can be Simple or Complex depending on rules set out in TSC F.3.3.2



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CDISCOUNT

- **Payment or Charge:** Payment for being dispatched below FPN
- **Why it applies:**
    - When a unit is dispatched below their FPN they will be charged in CIMB (as Meter Quantity will be less than Ex-Ante Quantity).
    - CDISCOUNT is a payment to offset the CIMB charge if PBOA < PIMB so that net settlement (through CIMB and CDISCOUNT) is at the PBOA.
- **Main inputs:** PBOA_QAB, PIMB, QAB

$$CDISCOUNT_{u\gamma} = \sum_{o}\sum_{i}\Big(Min\big(PBO_{u\beta oi\gamma} - PIMB_{\gamma}, 0\big) \times \Big(QABLF_{uoi\gamma} - Min\big(QABBPOLF_{uoi\gamma}, QABBIAS_{uoi\gamma}, QABUNDEL_{uoi\gamma}, QABNFLF_{uoi\gamma}, QABCURLLF_{uoi\gamma}, QABTOTSOLF_{uoi\gamma}\big)\Big)\Big)$$

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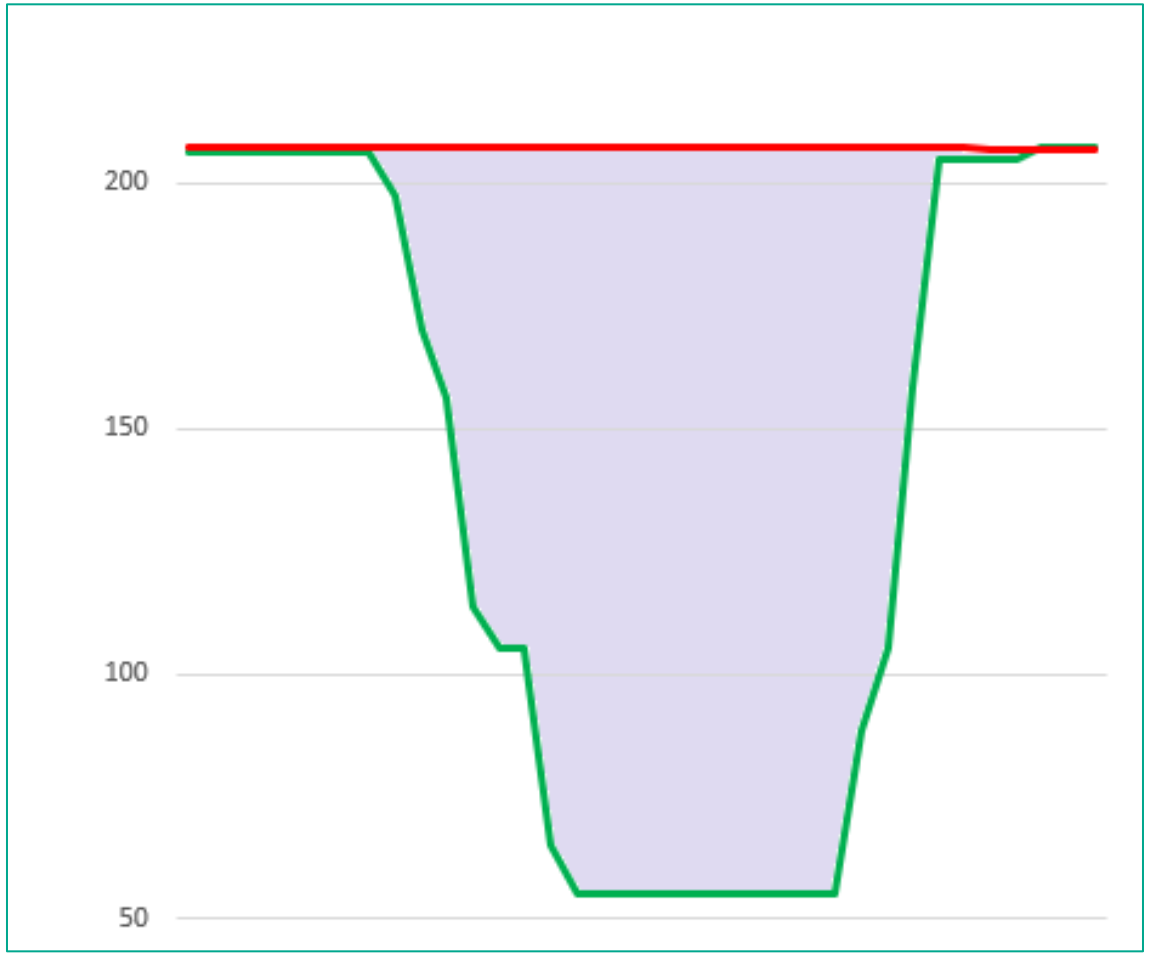
CDISCOUNT

QAB (Accepted Bid Quantity)

- Negative quantity calculated when a unit is dispatched below it's FPN.
- Also referred to as a decremental action.
- Settled at the difference between PBOA_QAB and PIMB .

PBOA_QAB (Bid Offer Price)

- Price associated with a Dec action as submitted by the participant in their Commercial Offer Data.
- Can be Simple or Complex depending on rules set out in TSC F.3.3.2



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CFC – Fixed Costs Payment or Charge

- **Payment or Charge:** can be either
- The difference between how a unit would ideally wish to run vs how the unit is actually run by the TSOs, can result in units incurring additional fixed costs or saving fixed costs.
- Fixed costs include additional or reduced number of starts, and additional or reduced number of Imbalance Settlement Periods where the unit is synchronised.
- **Why it applies:**
- Make the unit whole if their balancing market revenue is not sufficient to cover their additionally incurred fixed costs; or
- Recover the unit's fixed costs which were saved.
- **Note**: CFC is calculated on the last day of the billing week based on how a unit operated throughout the week.

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CFC – Fixed Costs Payment or Charge

$$CFC_{ub} = \sum_{k \in b} CMWP_{uk} - \sum_{\gamma \in b} \left(CNLR_{u\gamma} + CSUR_{u\gamma} \right)$$ Recoverable No Load and Start Up Costs

$$CMWP_{uk} = Max(COCMWP_{uk} - CREVMWP_{uk}, 0)$$ ← Per contiguous operating period

Operating Costs

$COCMWP_{uk}$

$$= \sum_{\gamma \in k} \left(CNL_{u\gamma} + CSU_{u\gamma} \right)$$ No Load and Start Up Costs

$$+ \sum_{o} \sum_{i} \left(PBO_{uoi\gamma} \times \left(QAOLF_{uoi\gamma} - Max\left(QAOUNDEL_{uoi\gamma}, QAOBIAS_{uoi\gamma}, QAOTOTSOLF_{uoi\gamma} \right) \right) \right)$$ Incremental Actions Cost

$$+ \sum_{o} \sum_{i} \left(PBO_{uoi\gamma} \times \left(QABLF_{uoi\gamma} - Min\left(QABUNDEL_{uoi\gamma}, QABBIAS_{uoi\gamma}, QABNFLF_{uoi\gamma}, QABTOTSOLF_{uoi\gamma} \right) \right) \right)$$ Decremental Actions Cost

Revenue Received

$CREVMWP_{uk}$

$$= \sum_{\gamma \in k} \left(\sum_{o} \sum_{i} \left(Max\left(PBO_{uoi\gamma}, PIMB_{\gamma} \right) \times \left(QAOLF_{uoi\gamma} - Max\left(QAOOPOLF_{uoi\gamma}, QAOBIAS_{uoi\gamma}, QAOUNDEL_{uoi\gamma}, QAOTOTSOLF_{uoi\gamma} \right) \right) \right) \right.$$ Incremental Actions Revenue

$$+ \sum_{o} \sum_{i} \left(Min\left(PBO_{uoi\gamma}, PIMB_{\gamma} \right) \times \left(QABLF_{uoi\gamma} - Min\left(QABBPOLF_{uoi\gamma}, QABBIAS_{uoi\gamma}, QABUNDEL_{uoi\gamma}, QABNFLF_{uoi\gamma}, QABCURLLF_{uoi\gamma}, QABTOTSOLF_{uoi\gamma} \right) \right) \right)$$ Decremental Actions Revenue

$$+ \sum_{o} \sum_{i} \left(PBO_{uoi\gamma} \times Max\left(QAOOPOLF_{uoi\gamma} - QAOUNDEL_{uoi\gamma}, 0 \right) \right)$$ "Undo" Inc Actions Revenue

$$+ \sum_{o} \sum_{i} \left(PBO_{uoi\gamma} \times Min\left(QABBPOLF_{uoi\gamma} - Min\left(QABCURLLF_{uoi\gamma}, QABUNDEL_{uoi\gamma} \right), 0 \right) \right)$$ "Undo" Dec Actions Revenue

$$+ \sum_{o} \sum_{i} \left(PCURL_{u\gamma} \times Min\left(QABCURLLF_{uoi\gamma} - Min\left(QABBIAS_{uoi\gamma}, QABUNDEL_{uoi\gamma} \right), 0 \right) \right) \left. \right)$$ Curtailment Actions Revenue

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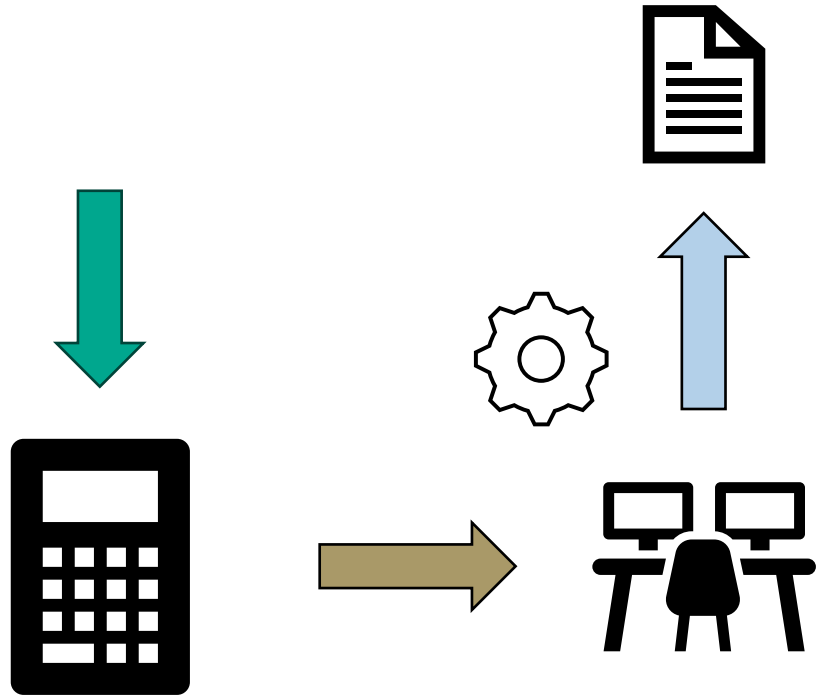
Balancing Market - Settlement Processing

Data aggregation, migration and Instruction profiling. Creation of QBOAs and Dispatch Quantities.

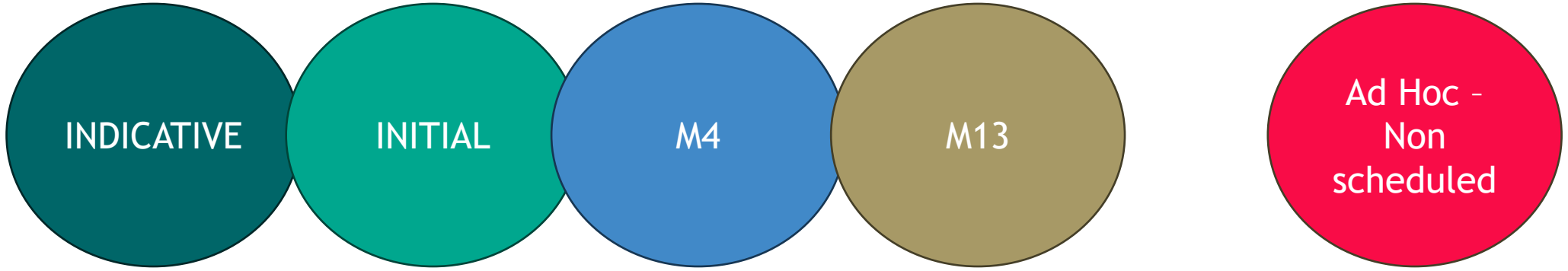
Calculations conducted within SEMO system.



Publication of Settlement Statements , Reports & Settlement Documents.

Validation performed on settlement component outputs.

Balancing Market – Scheduled Settlement Publications



INDICATIVE	INITIAL	M4	M13
Statements & Credit Calculations. Data received D+1 & published + 1 WD before 17:00	Invoices & Settlement Document. Data received D+4 & published +1 WD before 12:00	Based on changes from INIT or Ad Hoc. Data received M+4 & published +1 WD before 17:00	Based on changes from M4 or Ad Hoc. Data received M+13 & published +1 WD before 17:00

Balancing Market - Post Publication

Settlement Queries

- T&SC and Agreed Procedures 13 outline responsibilities of MO and procedural steps in addressing Settlement Queries.
- Party must raise SQ before 17:00 on the 20th WD after issuing the last set of scheduled Settlement Statements in accordance with the Settlement Calendar.
- MO must resolve within "one month". Additional 10 WD can be agreed between MO and relevant Party.
- Validity of settlement query typically depends on (i) integrity of MO settlement application or (ii) the provision of data by external data providers.
- Three Categories for Settlement Query determinations:
    - Upheld (Resettlement may be required)
    - Not Upheld (No resettlement required)
    - Rejected (No resettlement required)

Balancing Market - Post Publication (cont.i)

Upheld

- Upheld settlement queries need to be categorised to determine the necessary resettlement requirements.
    - High Materiality >=€50,000. Requires Ad Hoc resettlement unless scheduled resettlement due to take place for the billing period within 20 WD.
    - Low Materiality < €50,000. Does not require Ad Hoc resettlement and should be resolved within the scheduled resettlement M+4 or M+13. If M+13 has elapsed, upheld settlement queries above the Settlement Recalculation Threshold require Ad Hoc resettlement.

G.3.2.10 Any changes to Settlement resulting from a Settlement Query greater than the Settlement Recalculation Threshold, shall fall into one of the two following categories:

(a) change to Settlement Items with Low Materiality; or

(b) change to Settlement Items with High Materiality.

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Balancing Market – Post Publication (cont.ii)

Settlement Recalculation Threshold (SRT)

- Applied at a billing period and participant level.
- SEMC ratified the SRT value to be €15,000 (SEM-17-034).
- SRT applies to all settlement queries unless 'normal settlement processing' is yet to happen.
- The SRT does not apply to erroneous metering data where M13 has not elapsed for the Billing Period in question. Post M13, the SRT applies to these settlement queries.

Disputes

- If a party disagrees with a settlement determination issued by the MO they can utilise the Dispute avenue afforded under the T&SC.
- Dispute in relation to SQ must be raised within 5 WD of the receipt of the SEMO response to a Settlement Query.

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SEMO Contacts

SEMO Website: http://www.sem-o.com/

SEMO Contacts:

- info@sem-o.com;
- BalancingMarketRegistration@sem-o.com

- The Market Operator User Group (MOUG) meetings for 2026 are scheduled on the following dates:
  - 28th May
  - 10th September
  - 05th November
  - 10th December

25/03/2026

Future Markets Industry Workshop

March 2026

SDP 06 – Synchronous Condenser Integration

EirGrid SONI semo Single Electricity Market Operator

Agenda

- SDP 06 – Day in the Life
- Synchronous Condenser Scheduling - Examples

SDP 06 – Synchronous Condensers - Day in the Life

Submit and validate transactional data

- *Fixed costs must be zero for both start-up costs and no-load costs*
- *PQ Pairs must have a price of 0 €/MWh or 0 £/MWh (submitted as Standing COD, so does not need to be submitted each day)*
- *Physical Notifications must be zero.*
- *Forecast Availability (max=0, min=consumption when in Synchronous Condensers mode, or zero when not available)*
- *EDIL declarations MDMW=0, MNMW<=0*

TSO determines Indicative Operations Schedules (LTS, RTD, RTC)

Synchronous Condensers will have a negative contribution to energy (consumption) in scheduling and will contribute to inertia and applicable TCGs when their scheduled quantity is < 0 (Synchronous Condensers contribute to inertial requirements in scheduling and will provide voltage support in real-time.

Synchronous Condensers will have a positive contribution to schedule production costs, as there is a cost associated with the additional generation required to meet their load when contributing towards inertial requirements.

Indicative Operations Schedules are published in displays and reports

For Synchronous Condensers, Control Centre decides when they should be dispatched (via SYNC) to provide inertial support. DESY is used to dispatch a Synchronous Condenser unit off (not providing inertial support).

Control Centres(s) make dispatch decisions re Synchronous Condensers

Synchronous Condensers always dispatched via EDIL, using SYNC for ON and DESY for OFF instructions.

Approved DIs issued to Synchronous Condensers, via EDIL

Synchronous Condensers are excluded from Imbalance Pricing and Imbalance Settlement.

Settlement utilises the (already implemented) Mod_13_19 logic, where if the System Service Provider Flag = 1, the Trading Site Supplier Unit associated with the Synchronous Condenser is not charged for energy consumption.

Pricing and Imbalance Settlement

SDP 06 – Synchronous Condenser Scheduling

Scenario 1
Low Wind

Scenario 2
High Wind with MUON Not-Binding

MUON

The Minimum Conventional Units Online (MUON) is a constraint on the market unit commitment schedule to ensure there is a minimum number of large synchronous generator units required to be online, on the Ireland and Northern Ireland system. The constraint is to ensure safe and secure operation of the system.

Scenario 3
High Wind with MUON Binding

Scenario 4
High Wind with Regional Inertia Requirement

SDP 06 – Synchronous Condenser Scheduling

Scenario 1 – Low Wind

System Demand = 4,000 MW
All Island Inertia Floor = 23,000 MWs

Wind Availability is Low and Wind Dispatch Down is Zero

10 Large Conventional Generators are ON contributing to the Minimum Conventional Units Online (MUON) constraint of ≥ 7 Large Conventional Generators ON at all times

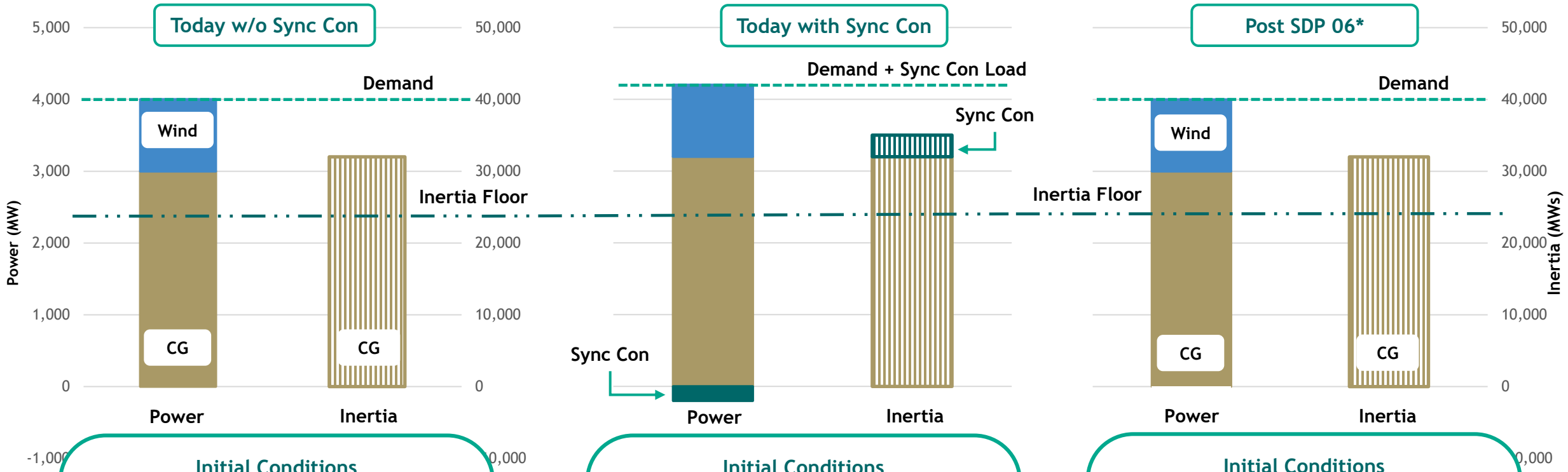
Inertia from Conventional Generators = 32,000 MWs

SDP 06 – Synchronous Condenser Scheduling

*Mod_01_25 subject to RA approval

Scenario 1 - Low Wind

System Demand = 4,000 MW; All Island Inertia Floor = 23,000 MWs; Inertia CG = 32,000 MWs



Initial Conditions

Inertia CG ≥ All Island Inertia Floor

10 CG ON

Scheduling Outcome

10 CG ON

Sufficient inertia scheduled

Initial Conditions

Inertia CG ≥ All Island Inertia Floor

10 CG ON

Scheduling Outcome

10 CG ON

1 Sync Con ON due to bidding behaviour

Marginal Increase in demand met from CG

Excessive inertia scheduled

Initial Conditions

Inertia CG ≥ All Island Inertia Floor

10 CG ON

Scheduling Outcome

10 CG ON

Sufficient inertia scheduled

SDP 06 – Synchronous Condenser Scheduling

Scenario 2 – High Wind with MUON constraint not-binding

System Demand = 4,000 MW
All Island Inertia Floor = 23,000 MWs

Wind Availability is High and Wind Dispatch Down is Active

9 Large Conventional Generators (CG) are ON and the Minimum Conventional Units Online (MUON) constraint of ≥ 7 Large Conventional Generators ON is not-binding

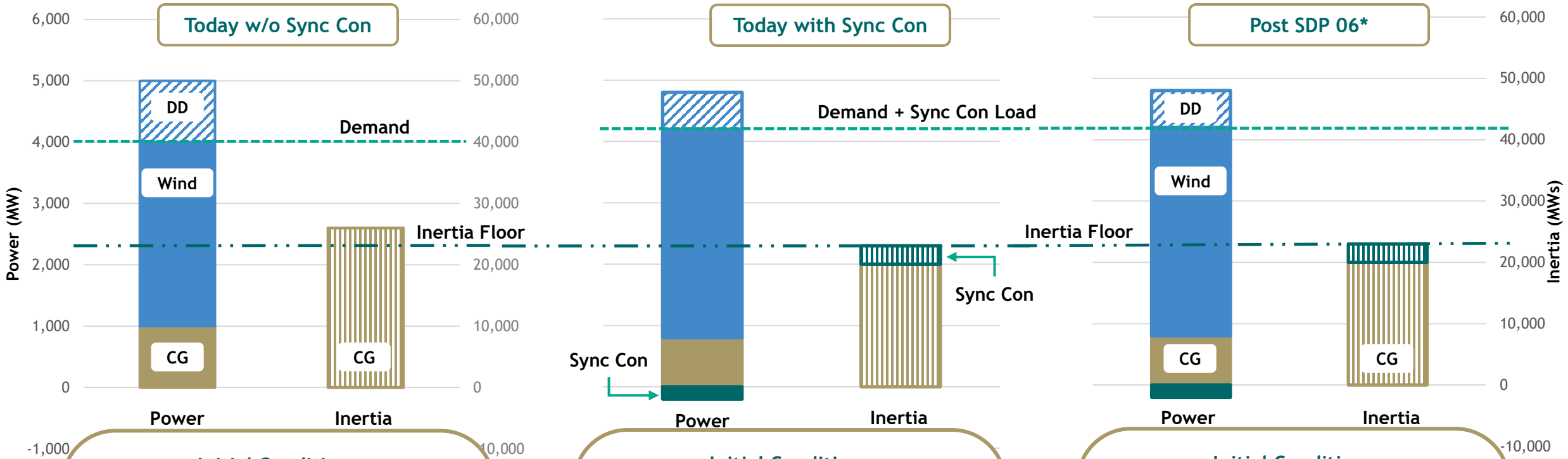
Inertia from Conventional Generators = 26,000 MWs

*Mod_01_25 subject to RA approval

SDP 06 – Synchronous Condenser Scheduling

Scenario 2 - High Wind with MUON constraint not-binding

System Demand = 4,000 MW; All Island Inertia Floor = 23,000 MWs; Inertia CG = 26,000 MWs



Initial Conditions
Inertia CG ≥ All Island Inertia Floor
9 CG ON
MUON constraint not-binding

Scheduling Outcome
9 CG ON
Sufficient inertia scheduled

Initial Conditions
Inertia CG ≥ All Island Inertia Floor
9 CG ON
MUON constraint not-binding
1 CG can be OFF
1 Sync Con can be turned ON

Scheduling Outcome
8 CG ON ;1 Sync Con ON
Increase in demand met by Wind
Wind Dispatch Down reduced
Sufficient inertia scheduled

Initial Conditions
Inertia CG ≥ All Island Inertia Floor
9 CG ON
MUON constraint not-binding
1 CG can be OFF
1 Sync Con can be turned ON

Scheduling Outcome
8 CG ON ;1 Sync Con ON
Increase in demand met by Wind
Wind Dispatch Down reduced
Sufficient inertia scheduled

SDP 06 – Synchronous Condenser Scheduling

Scenario 3 – High Wind with MUON constraint binding

System Demand = 4,000 MW
All Island Inertia Floor = 23,000 MWs

Wind Availability is High and Wind Dispatch Down is Active

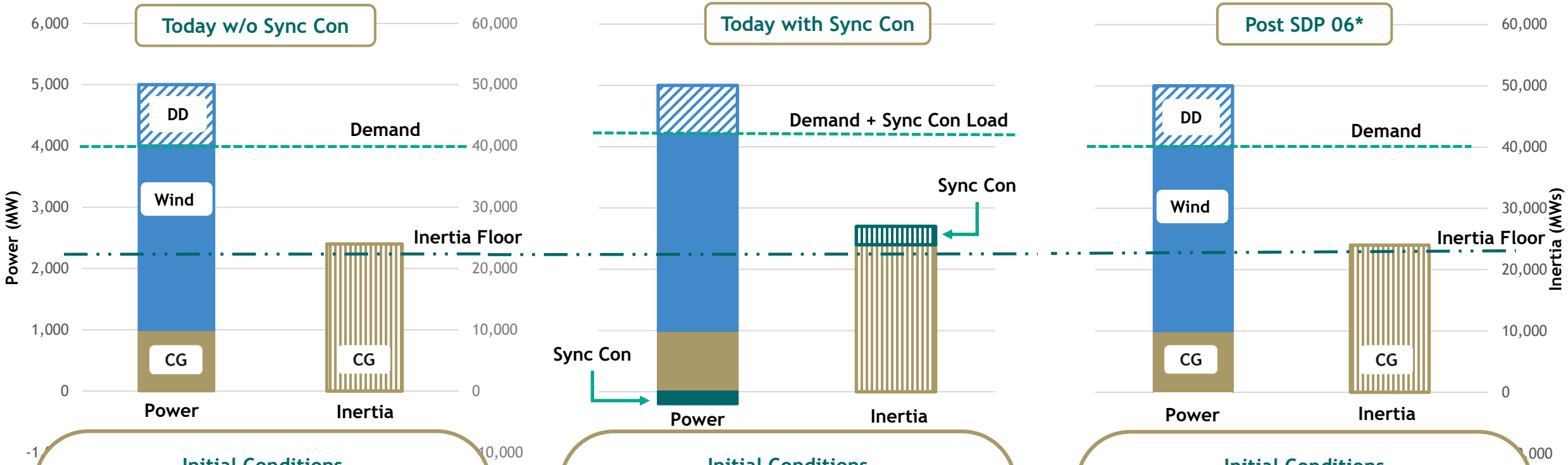
7 Large Conventional Generators (CG) are ON and the Minimum Conventional Units Online (MUON) constraint of ≥ 7 large conventional generators ON is binding

Inertia from Conventional Generators = 24,000 MWs

SDP 06 – Synchronous Condenser Scheduling

*Mod_01_25 subject to RA approval

Scenario 3 - High Wind with MUON constraint binding
System Demand = 4,000 MW; All Island Inertia Floor = 23,000 MWs; Inertia CG = 24,000 MWs



Initial Conditions
Inertia CG ≥ All Island Inertia Floor
7 CG ON
MUON constraint binding

Scheduling Outcome
7 CG ON
Sufficient inertia scheduled

Initial Conditions
Inertia CG ≥ All Island Inertia Floor
7 CG ON
MUON constraint binding

Scheduling Outcome
7 CG ON
1 Sync Con ON due to bidding behaviour
Marginal Increase in demand met by Wind
Small reduction in Wind dispatch down
Excessive inertia scheduled

Initial Conditions
Inertia CG ≥ All Island Inertia Floor
7 CG ON
MUON constraint binding

Scheduling Outcome
7 CG ON
Sufficient inertia scheduled

Sync Con not turned ON to increase demand and reduce wind dispatch down.

SDP 06 – Synchronous Condenser Commitment

Scenario 4 - High Wind with Regional Inertia Requirement

System Demand = 4,200 MW
All Island Inertia Floor = 23,000 MWs

Wind Availability is High and Wind Dispatch Down (DD) is Active

7 Large Conventional Generators (CG) and 1 Sync Con are ON to meet All Island Minimum Inertia Requirement

A region with weak local system stability due to high penetration of wind generation has been identified. To strengthen stability, a minimum regional inertia requirement has been established.

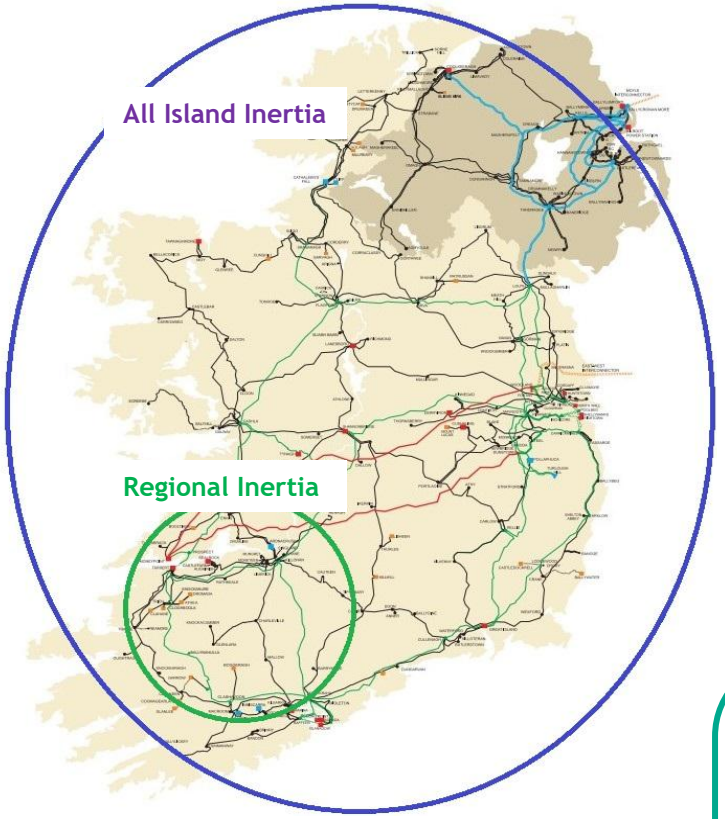
Regional Inertia Requirement = 8,000 MWs

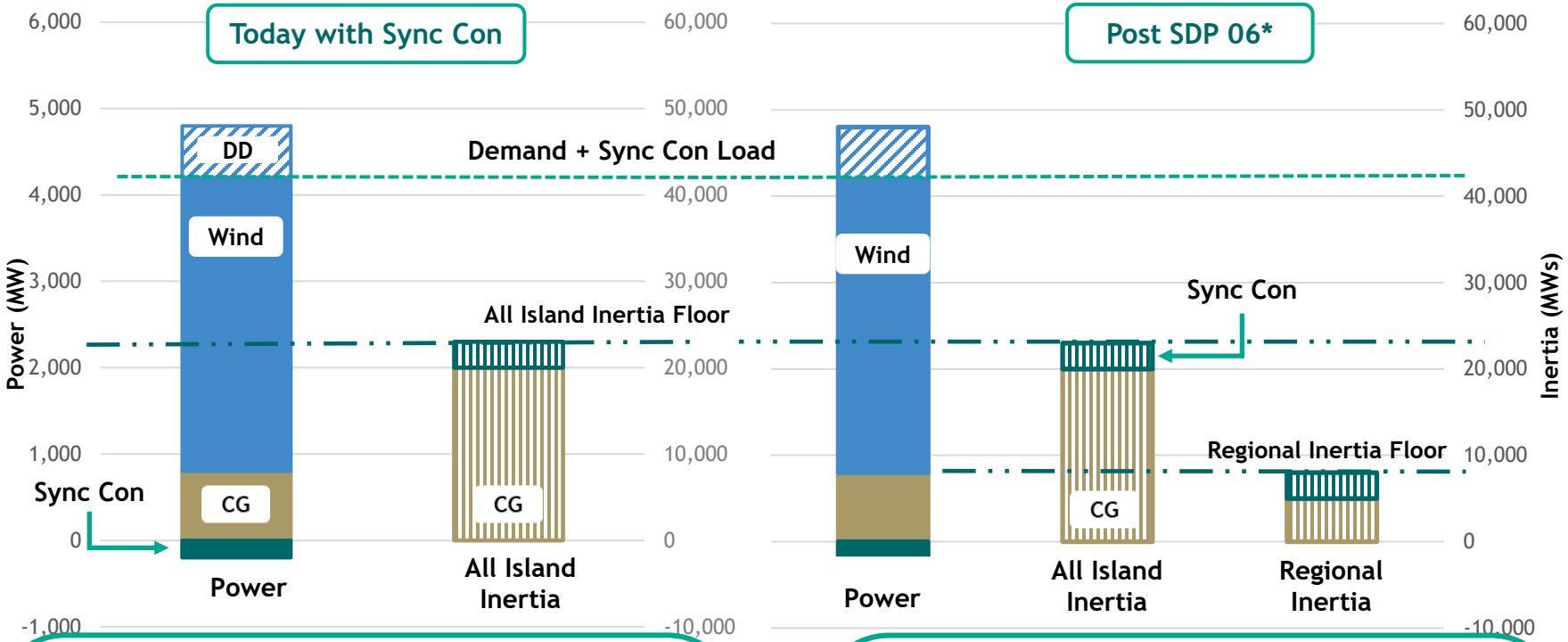
SDP 06 – Synchronous Condenser Scheduling

*Mod_01_25 subject to RA approval

Scenario 4 - High Wind with Regional Inertia Requirement

System Demand = 4,200 MW; All Island Inertia Floor = 23,000 MWs; Regional Inertia Requirement = 8,000 MWs





Initial Conditions

Inertia CG + Sync Con ≥ All Island Inertia Floor

7 CG ON ;1 Sync Con ON

1 Sync Con Available *(in region)*

Minimum Regional Inertia Requirement Identified

Scheduling Outcome

7 CG ON ;1 Sync Con ON

Sufficient All Island Inertia Scheduled

Minimum Regional Inertia requirement unmet as it cannot be defined in the current system.

Initial Conditions

Inertia CG + Sync Con ≥ All Island Inertia Floor

7 CG ON ;1 Sync Con ON

1 Sync Con Available *(in region)*

Minimum Regional Inertia Requirement Identified

Scheduling Outcome

7 CG ON

1 Sync Con OFF ; 1 Sync Con ON *(in region)*

Increase in demand met by Wind

Sufficient All Island Inertia and Regional Inertia Scheduled

25/03/2026

SMP Capacity Calculation update

Industry workshop 25 March 2026

Flip Steenbrink & John O'Dea

EirGrid SONI semo Single Electricity Market Operator

Contents

- Day in the life: Timeframes of Flow-Based (FB) Capacity Calculation (CC) and corresponding markets
- High-level implementation plan
- Flow-Based vs Net Transfer Capacity

- Please feel free to ask any questions during the presentation, or at the end

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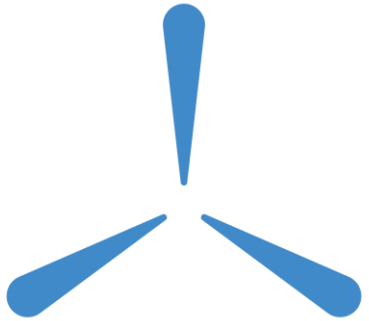
Brief introduction & context

Why capacity calculation?

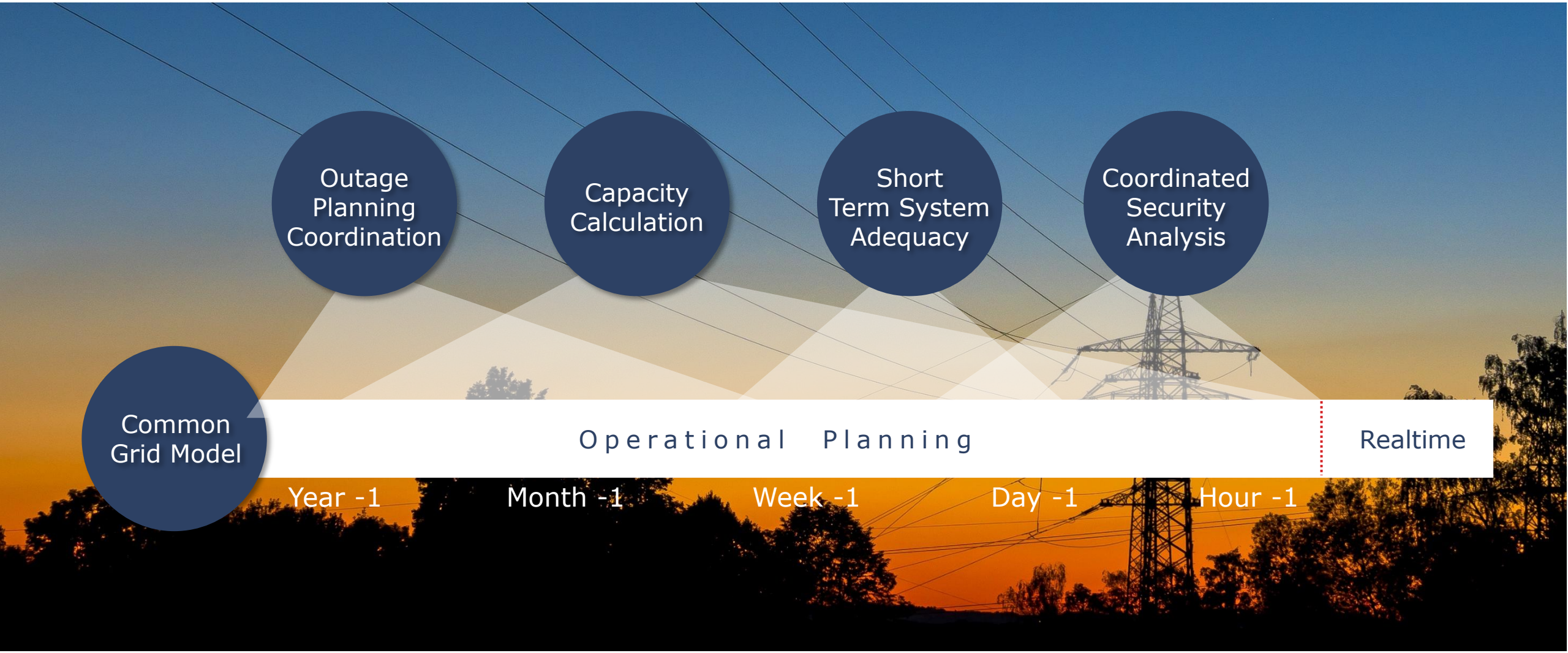
- Trades on cross-border lines have an impact on how much capacity is available on the internal grid
- Sharing your expected internal grid model to form a common grid model, so that TSOs better know what the actual state of their grid will be
- The more sharing & collaboration, the better the forecast and the more capacity is available on internal lines → at any moment.



Flow-Based Capacity Calculation (FB CC) is an advanced method of capacity calculation, used in the Core Capacity Calculation Region (Core CCR) and works for Y-1, M-1, D-2, D-1 and D.

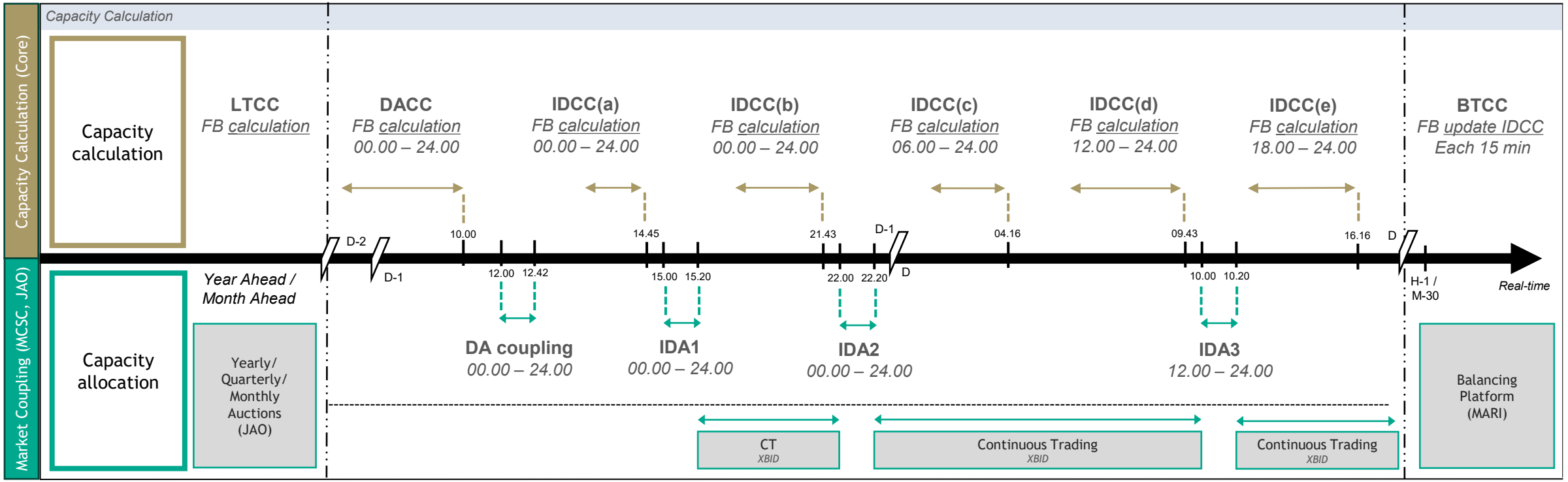
Regional Coordination Centres (RCCs)

Timeframes

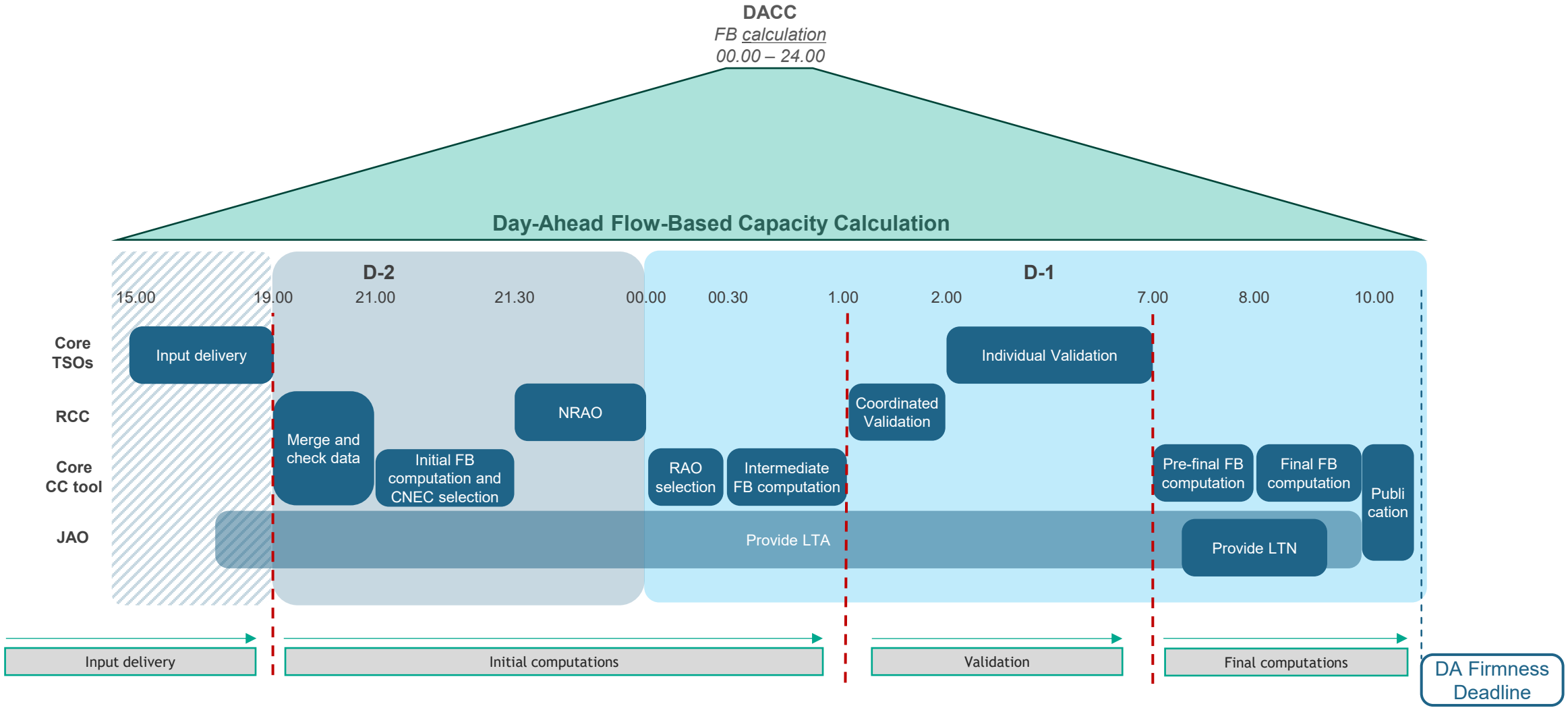


Source: TSCNET

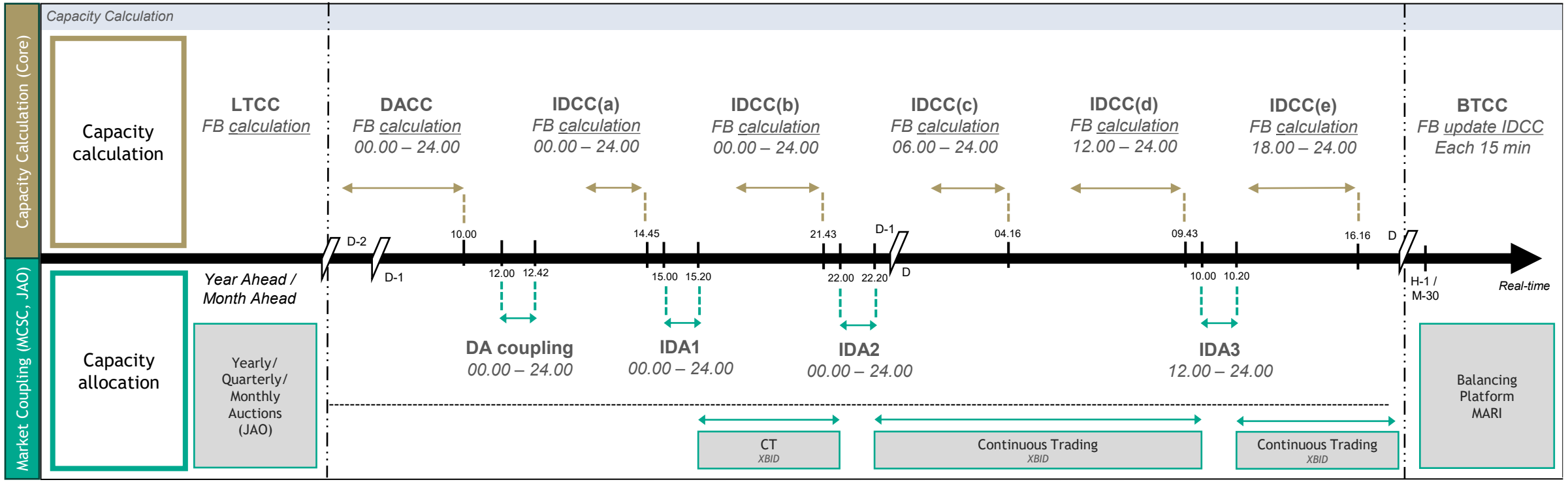
Day in the life: Capacity Calculation & Market Coupling



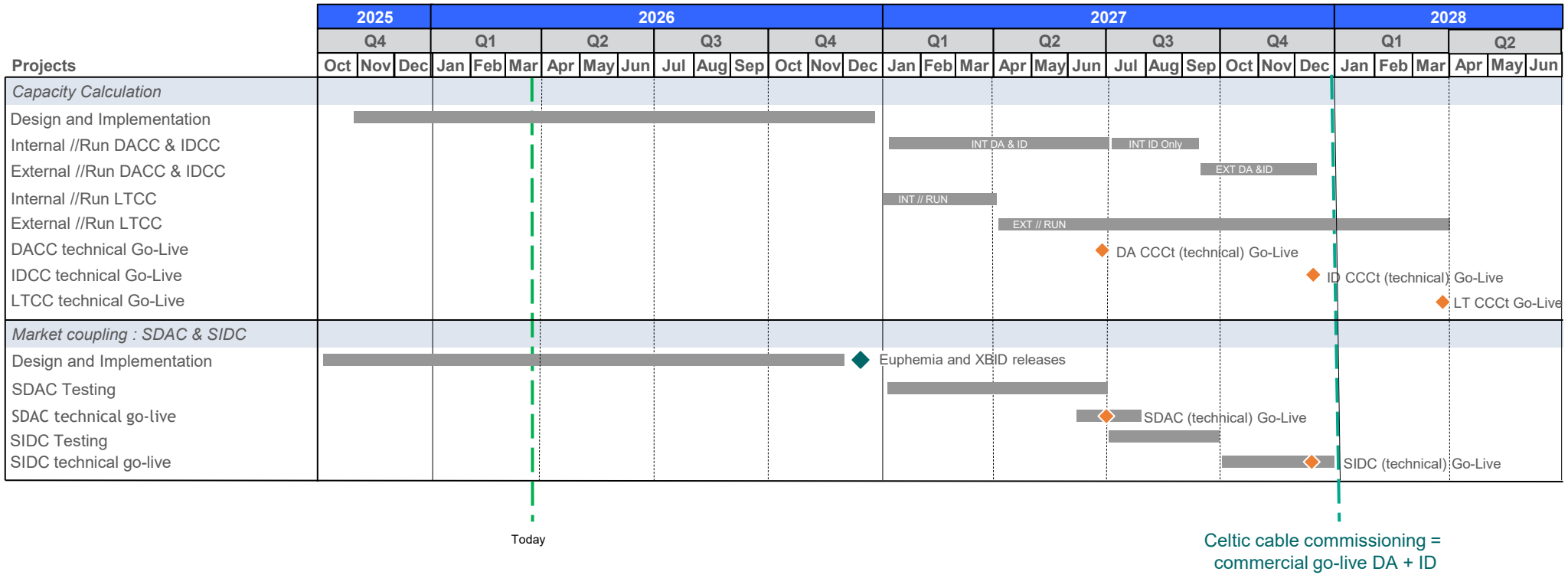
Example timeframe for day-ahead FB CC



Day in the life: Capacity Calculation & Market Coupling



Celtic High-level Integration Plan



Methods for capacity calculation: NTC based, Flow-Based, Evolved Flow-Based, AHC

Method	Definition	Level of coordination	Information shared	Level of complexity	Examples
ATC/NTC based CC (ATC based)	BZs set a fixed maximum available capacity in either direction, the lowest is taken by the operator, for the resulting direction.	Bilaterally / coordinated	Minimal, only border specific info	3/10	SEM-GB
Flow-Based CC (FB CC)	BZs combine their grid models, and together they determine an optimised capacity for each BZB in the expected direction.	Within a CCR	Full information on internal grids and expected sensitivity to NP changes	7/10	Core CCR (DA & parts of ID)
Evolved Flow-Based CC (EFB CC)	The same as FB CC, but including HVDC interconnectors. FB CC was initially only set up for AC lines. EFB allows for HVDCs, within the same synchronous area.	Bilaterally between two BZs within a CCR	Full information on internal grids and expected sensitivity to NP changes	8/10	ALEGrO HVDC IC (BE-DE)
Standard Hybrid Coupling (SHC)	On borders where each BZ is in a different CCR, and only one of them is FB: SHC is applied	Between two CCRs, of which 1 is Core CCR	Forecasted cross-zonal exchanges, but internal grids are not	8/10	Core CCR - CH
Advanced Hybrid Coupling (AHC)	On borders where each BZ is in a different CCR, and both BZs are FB: AHC is applied	Between two FB CCRs, of which 1 is Core CCR	Forecasted cross-zonal exchanges, including the internal grids	9/10	Core CCR – Nordic CCR, from 20 May '26

Thank you for your attendance!

Future Markets Workshops 2026	
Dates	**Location**
Wednesday, 22nd April 2026	Online
Wednesday, 20th May 2026	In person, EirGrid Office, Dublin / Online
Wednesday, 24th June 2026	Online
Wednesday, 29th July 2026	In person, EirGrid Office, Dublin / Online

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Stakeholder Engagement: FM Industry Workshop

Contacting FM Programmes

To raise an issue or query for the Future Markets Programmes:

Contact

SDP Queries (Scheduling & Dispatch Programme)
SchedulingandDispatch@Eirgrid.com
SchedulingandDispatch@soni.ltd.uk

LDES Queries (Long Duration Energy storage)
LDES@Eirgrid.com
LDESProgramme@soni.ltd.uk

FASS Queries (Future Arrangements for System Services)
FASS@Eirgrid.com
FASSProgramme@soni.ltd.uk

SMP Queries (Strategic Markets Programme)
SMP.PMO@Eirgrid.com

FPM Overall and EMP (Energy Market Policy)
FuturePowerMarkets@Eirgrid.com
futurepowermarketsNI@soni.ltd.uk

Information to Provide

- Your name
- Your email & phone number
- Your organisation
- Topic of issue/query & programme name
- Description of the issue or query
- Any additional information to aid in understanding the issue or query
- (*No requirement to email the same query to both EirGrid and SONI email addresses for a relevant programme*)

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