

Future Power Markets

Stakeholder Engagement

Industry Workshop: 3 July 2024

This presentation provides an update on the Future Power Markets Programmes.

Achievable - Valuable - “Simple”



Future Power Markets - Industry Outreach

Why Are We Here?



Inform

We are here to provide information about the ongoing programmes of work in the Future Power Markets space and the impact on the market participant community. We will provide a view of the programmes' drivers, functional details, structure, timelines, and stakeholder engagement.



Discuss

We will discuss the changes and how this impacts you and your portfolio. We will discuss the functional, technical, and formal arrangement changes, stakeholder engagement, and programme management updates. We are happy to field all questions - and we may not be able to answer all of them today.



Listen

We are here to listen. What are your thoughts on the FPM programmes, the functional, technical, and regulatory details and the impacts to your business? What questions do you need answers to? What clarity do you need?



Ask

We will ask for your participation throughout - we are better together.

FPM - Industry Workshop

Setting Expectations



Meeting Rules

1. **Engage:** actively listen and ask questions. This session is for you.
2. **Show Courtesy:** allow everyone the time and space to participate in the discussion. Don't talk over another speaker.
3. **Scope Discipline:** maintain focus on FPM.



FPM: Industry Workshop (3rd July 2024)

Agenda for today's workshop

Time	Topic
10:30 - 10:35	Introduction & Housekeeping
10:35 - 10:55	Future Arrangement System Services - Status Update
10:55 - 11:10	Strategic Markets Programme - Overview / Status Update
11:10 - 12:15	Scheduling & Dispatch
12:15 - 12:30	Q & A
12:30 - 13:00	AOB/Close Out

FASS Programme Update

FASS: Status Update (July 2024 Industry Workshop)

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

FASS
Summary Status

Overall Status		Overall status amber reflecting 1 month delay to DASSA design recommendations paper to accommodate RA requests for increased engagement prior to publication and to review feedback from Industry.
Schedule		The programme schedule has moved to amber status following a delay to the DASSA recommendations paper publication date. The programme team are assessing impact to FASS timelines and go-live. PIR No. 2 to be published in September 2024 which will provide further clarity by way of 2025 programme milestones.
Resourcing		TSO programme teams are staffed and engaged to continue work at pace. However, continued funding approval is required to maintain resources.
Finances		Awaiting RA decision on Phase 2 Uplift and Phase 3 & 4 ROM Estimate Funding Application. Expectation that existing funding will be exhausted by summer 2024.

Key Messages



Service Provider Sentiment

- TBC. Industry readiness survey to be issued later in calendar year which will inform High Level Readiness Approach (FASS.20).
- Service providers requesting further clarity on the bundling of system services as requested at the product review information session.



Key Activities for Immediate Action

- Funding approval
- DASSA Design Recommendations Paper
- Product Review & Locational Methodology Recommendations Paper
- System Services Charge Consultation Paper



Positive Developments (Since Last Report)

- DASSA Design Recommendations Paper in development
- Product Design & Locational Methodology Information Workshop held June 19th
- IT System Procurement continues



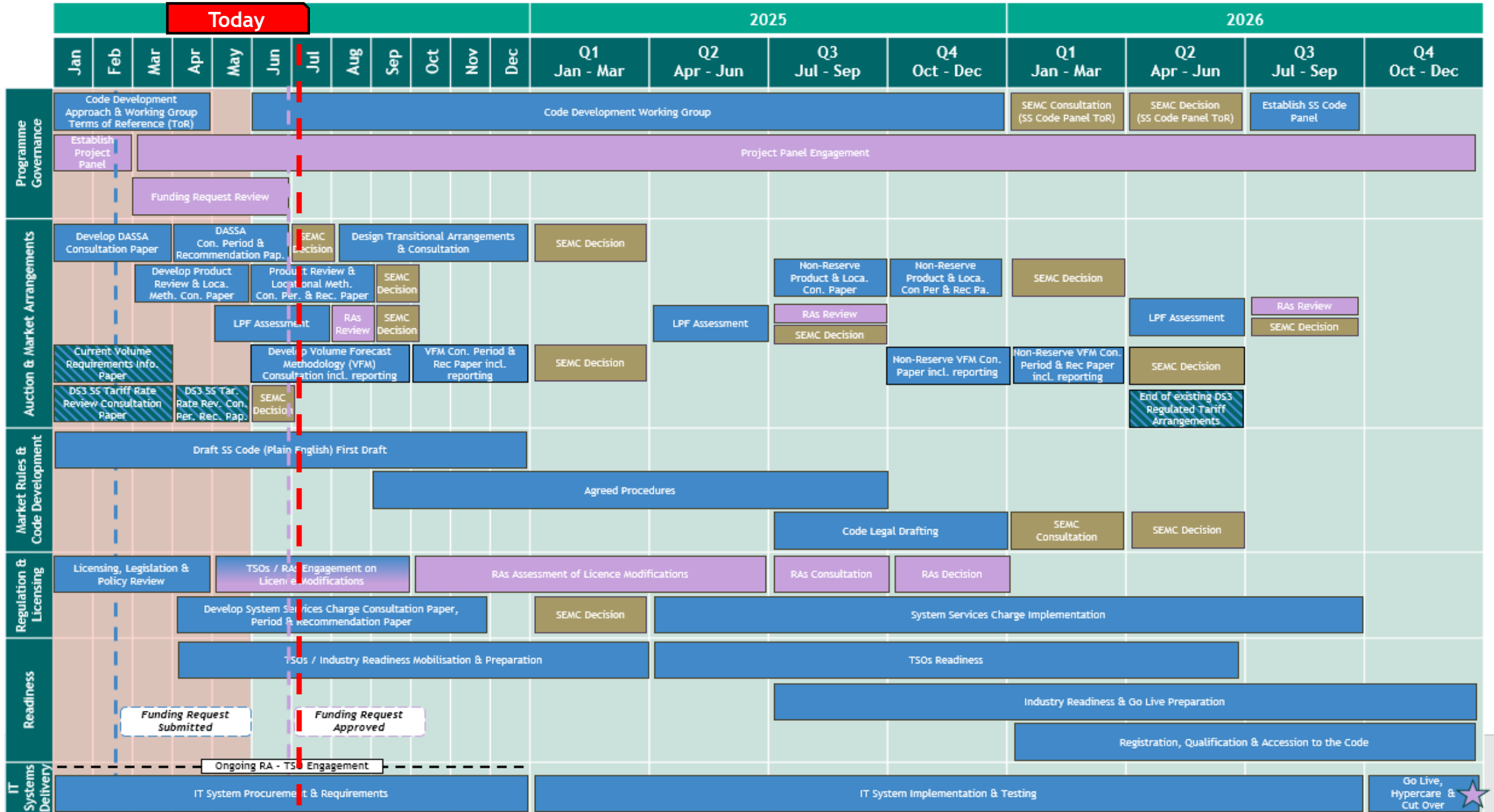
Challenges (Since Last Report)

- Funding uncertainty persists
- Delays to DASSA Design Recommendations Paper publication

Phased Implementation Roadmap - Level 1

Legend

- TSOs Led Activity
- SEMC Decision
- DS3 Activity
- RAs Led Activity
- RA TSOs Activity
- Depletion of Funds



Milestone Reference List

Milestone #	Milestone Description	Milestone Dependencies	Milestone Owner	Milestone Target Date	Status
FASS.01	Establish The Project Panel	-	RAs	February 2024	Complete
FASS.02	SEMC Decision On Phased Implementation Roadmap	-	SEMC	February 2024	Approved
FASS.03	Commence IT Systems Procurement	FASS.02	TSOs	February 2024	Complete
FASS.04	Publish Phased Implementation Roadmap 1	FASS.02	TSOs	March 2024	Complete
FASS.05	Publish FASS Daily Auction/Procurement Design Consultation Paper	FASS.04	TSOs	March 2024	Complete
FASS.06	Commence Detailed Requirements	-	TSOs	March 2024	Complete
FASS.07	Establish System Service Code Development Working Group ToR	FASS.04	TSOs	April 2024	Complete
FASS.08	Issue List of Proposed Licence Modifications to RAs	-	TSOs	April 2024	Complete
FASS.09	Publish FASS Daily Auction Product Review and Locational Methodology Consultation Paper	-	TSOs	May 2024	Complete
FASS.10	FASS Programme Funding Request Approval	-	RAs	June 2024	Pending
FASS.11	Publish FASS Daily Auction/Procurement Design Recommendation Paper	FASS.05	TSOs	June 2024	In Progress
FASS.12	SEMC Decision on FASS Daily Auction/Procurement Design	FASS.11	SEMC	July 2024	
FASS.13	Publish Annual Layered Procurement Assessment Recommendations Paper 2024	-	TSOs	July 2024	In Progress
FASS.14	Publish FASS Daily Auction Product Review and Locational Methodology Recommendation Paper	FASS.09	TSOs	August 2024	In Progress
FASS.15	Commence Grid Code Review	FASS.14	TSOs	September 2024	
FASS.16	Publish Phased Implementation Roadmap 2	FASS.04	TSOs	September 2024	
FASS.17	SEMC Decision on FASS Daily Auction Product Review and Locational Methodology	FASS.14	SEMC	September 2024	
FASS.18	SEMC Decision on Annual Layered Procurement Assessment 2024	FASS.13	SEMC	September 2024	
FASS.19	Publish System Services Charge Recommendations Paper	-	TSOs	November 2024	
FASS.20	Publish High Level Readiness Approach	FASS.12	TSOs	November 2024	
FASS.21	Publish Volume Forecasting Methodology Recommendation Paper including Volumes Requirements Reporting	FASS.17	TSOs	December 2024	
FASS.22	Draft Plain English Version of SS Code	FASS.07 FASS.12 FASS.17	TSOs	December 2024	In progress

DASSA Design Recommendations Paper

The TSOs received 16 responses to the DASSA Design Consultation Paper. Industry sentiment was assessed per question:



In favour (10)

- Volume capped bids
- Divisibility of bids
- Secondary trading: central platform & imperfect substitutes
- Registration/ qualification
- Monthly settlement



Mixed (23)

- Products & volumes workstreams
- Clearing/ bundling
- Commitment obligations
- Market power
- FAM payments
- EU interactions (REMIT)



Not in favour (5)

- Timing of the DASSA
- Simple bidding
- Volume insufficiency
- Secondary trading window
- TSO participation in secondary trading

Status of Paper

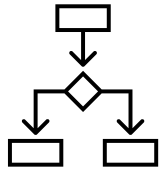
- Drafting of the DASSA Design Recommendations Paper is underway. Two thirds of the recommendations have been formed and early drafts of the paper have been shared with the RAs.
- The TSOs are assessing options to update the design where possible, and the potential impact to timelines.
- TSOs and RAs are engaging closely on the recommendations and industry's feedback.
- A number of design decisions remain outstanding however, with further time needed to develop the recommendations before they are submitted to the SEM Committee.

Product Review Consultation Workshop

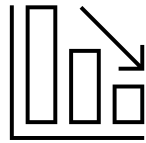


- The DASSA Product Review & Locational Methodology Consultation workshop took place virtually on Wednesday 19th June with 70+ attendees joining online.
- Key industry stakeholders were in attendance from demand response, generators and industry representation bodies (EAI, WEI, DRAI, ESAI).
- Product Review consultation period is due to close 18th July.

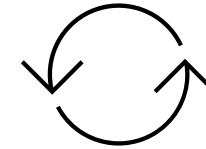
Key Themes from workshop



Bundling
Products



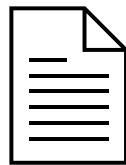
Setting \pm 15 mHz dead
band capability may
reduce competition



Implementation of
configurable setting



Testing
Requirements



Grid Code
Changes

Next Steps

- Address industry queries received through the FASS mailbox ahead of the consultation deadline
- TSOs to review industry feedback on the above topics ahead of drafting the recommendations paper

SS Code Working Group Update



- 10 participants attended in EirGrid offices with industry welcoming the engagement
- Constructive discussion held across the following topics:



Ways of Working



Qualification



Legal & Governance



Registration, Participation
& Accession

Next Steps:

- Circulate actions and minutes
- Next Working Group meeting provisionally scheduled for Wednesday 28th August in SONI offices



Thank You

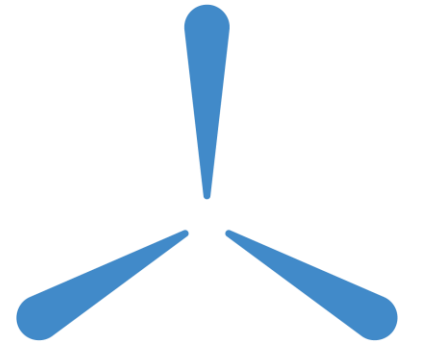
Questions can be submitted to

FASS@Eirgrid.com or
FASSProgramme@soni.ltd.uk

Next Steps:

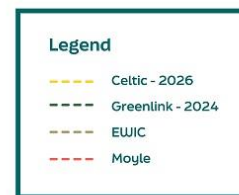
- The TSOs will publish a recommendations paper in advance of the SEM Committee Decision in **August (TBC)**.
- Product Review Consultation period open until **18th July**.
- **System Services Supplier Charge** consultation period to commence in coming weeks.
- The second sitting of the **Code Development Working Group** is provisionally scheduled for the **28th August** in SONI offices.

Strategic Markets Programme Overview & Status



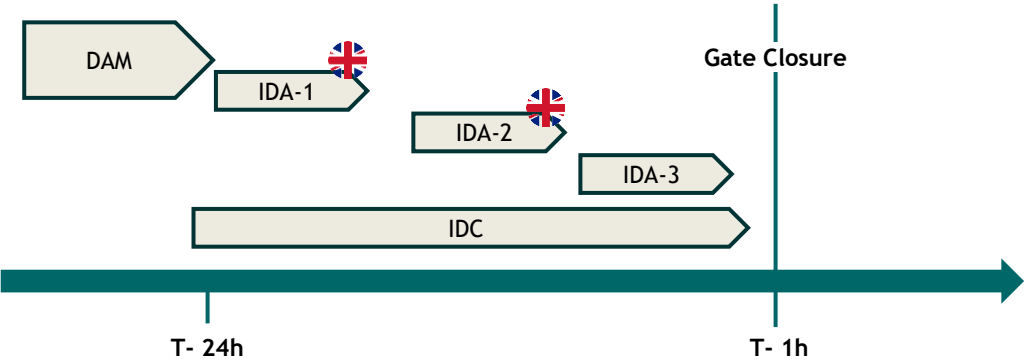
Celtic Interconnector Overview

- The Celtic Interconnector will link Ireland and France via a **700MW DC cable** and is due to go-live by the end of 2026.
- The Celtic Interconnector will lead to the SEM All-Island market being physically re-connected directly with the European energy markets after being isolated due to Brexit.
- Underlying the re-integration there is a need to comply with EU (e.g., CACM) requirements for EU Intraday Auctions and Continuous Trading as the SEM is re-integrated with Europe
- A revision of the current SEM market design is necessary to allow efficient trading opportunities for market participants and facilitate cross-border trade with both GB and France.



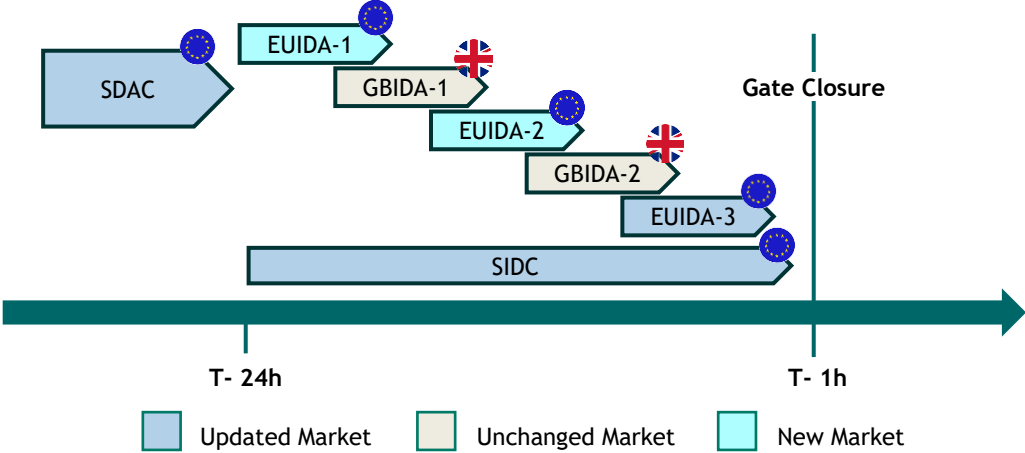
Changes to Market Arrangements

Previous Market Arrangements



- 5 Ex-ante Markets available
- 2 Coupled markets with GB
- Single NEMO SEMOpX

New Market Arrangements

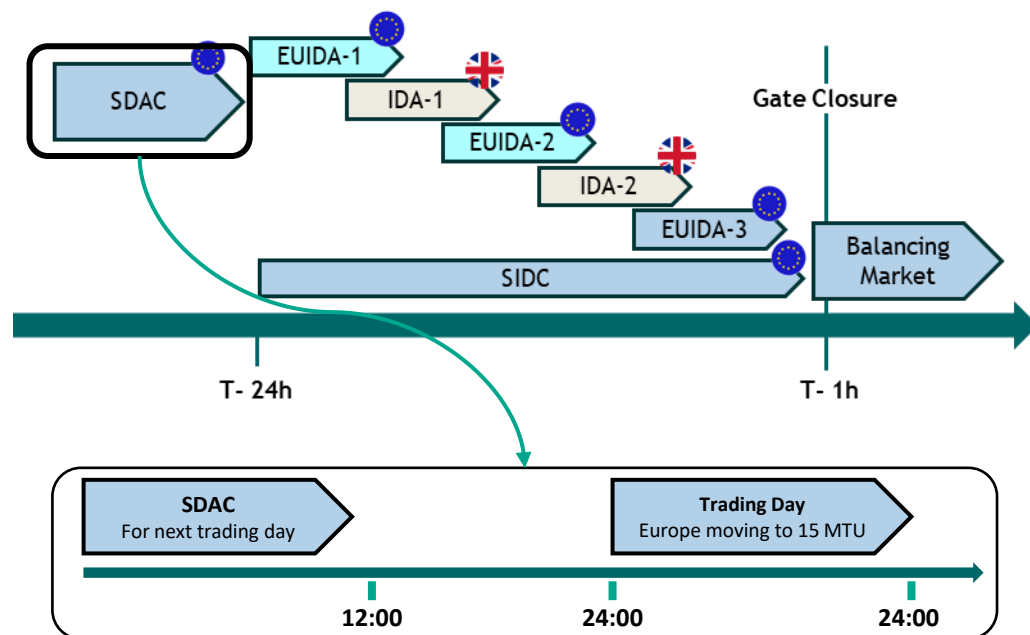


- 7 Ex-ante Markets available
- 2 Coupled markets with GB, 5 coupled markets with Europe
- Multi NEMO arrangements

Updated Market
 Unchanged Market
 New Market

Single Day-ahead Coupling (SDAC)

The aim of Single Day-ahead Coupling (SDAC) is to create a single pan European cross zonal day-ahead electricity market.





SDAC allocates **scarce cross-border transmission capacity** in the most efficient way by **coupling wholesale electricity markets from different regions**.

SDAC uses a common algorithm, simultaneously taking into account **cross-border transmission constraints** thereby maximising social welfare.


How Single Day-ahead Coupling works:

- | <u>Inputs</u> | ➔ | <u>Outputs</u> |
|--|---|--|
| <ul style="list-style-type: none"> • Bid and offer data • Network capacities and constraints | | <ul style="list-style-type: none"> • Clearing prices and matched trades • Scheduled exchanges • Net position of bidding areas |

 SDAC continues to serve 27 countries with 32 TSOs and 17 NEMOs

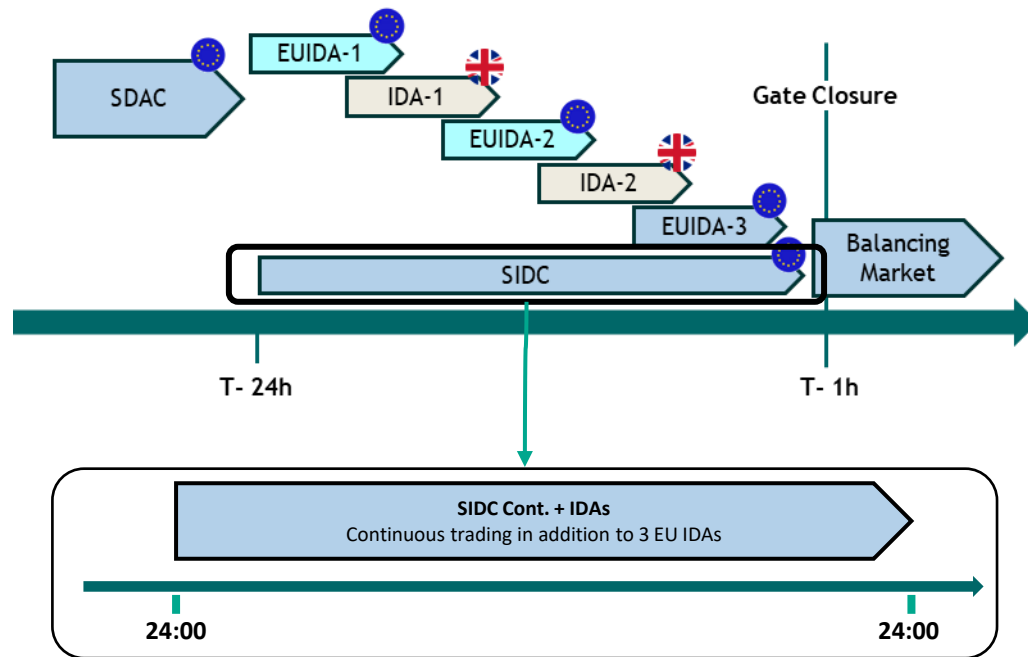
 1,530 TWh/yr coupled, 98.6% of EU consumption

€ 200 M€ average daily value of matched trades

 17 minutes to solve the complex optimization problem each day

Single Intraday Coupling (SIDC)


Single Intraday Coupling (SIDC or XBID*) creates a single EU cross-zonal intraday electricity market.





SIDC allows market participants to **trade electricity continuously** on the day the energy is needed.

Allowing market participants to **balance their positions** reduces balancing market activity while allowing time for system operation processes.

- 01 Shared Order Book (SOB)
- 02 Capacity Management Module (CMM)
- 03 Shipping Module (SM)

 SIDC couples 25 European countries

 151 million trades have occurred through SIDC from June 2018 to 2022

 Introduction of 3 Intraday Auctions went live June 2024

*Cross-Border Intraday

Progress Made to Date

Publication of SEM Ex-Ante Market design for EU Re-Integration - [find it here](#).

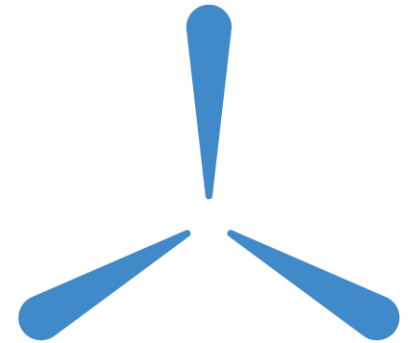
Response to Feedback on SEM Ex-Ante Market Design for EU Integration - [find it here](#).



- Local Implementation Project to start in September
- High Level Requirements for SDAC/SIDC, Multi-NEMO Arrangements and CORE CCR in draft
- Engagement with vendors planned in next quarter

- Local Implementation project started with engagement from the NEMOs and RTE. Meeting to be held in July to start detailed design.
- High Level Requirements for SDAC/SIDC, Multi-NEMO Arrangements and CORE CCR in draft
- Engagement with vendors planned in next quarter

Scheduling and Dispatch Programme



Scheduling & Dispatch Programme Overview

Key Principles

For this complex programme...

1. Be **pragmatic** about solution pathways.
2. Solve the **immediate and urgent** problems at hand.
3. Don't allow perfect to be the enemy of **good**.
4. **Communicate** early and often - to all **stakeholders**.
5. Maintain **support of industry**.
6. **Actively manage** multidisciplinary delivery team.

Achievable - Valuable - "Simple"

SDP Objective & Drivers

To enhance and improve the technology and capability of scheduling and dispatch in Ireland and Northern Ireland. This is driven by market participant needs, the EU Clean Energy Package mandates, and in support of the broader goals of renewables and System Non Synchronous Penetration (SNSP) penetration targets.

- Clean Energy Package requirements - NPDR treatment
- Ireland and Northern Ireland Government renewables targets for the 80%/70% total renewable energy and 95+% system non-synchronous penetration (SNSP) on an instantaneous basis.
- Market Participant requests for certainty on treatment of renewable assets, batteries - revenue certainty.
- Market Participant requests for improvement in re-balancing and re-dispatching (prevailing weather).



Scope of SDP



One component of the broader SOEF programme.

Tranche 1: - SDP-01 Operation of Non-Priority Dispatch Renewables (NPDR)

- SDP-02 Energy Storage Power Station (ESPS) integration
- SDP-04 Wind dispatchability improvements

Tranche 1 Go Live: April 2025

Tranche 2: - SDP-03 Fast Frequency Response (FFR)

- SDP-05 Reserve services scheduling and dispatch
- SDP-06 Synchronous condenser scheduling and dispatch

Tranche 2 Go Live: October - December 2025

SDP: Status Update (July 2024 Industry Workshop)

■ As planned, no issues ↑ Improving
■ Minor - moderate concern ⇌ Steady
■ Significant issue / concern ↓ Worsening



SDP

Summary Status

Overall Status	➔	Overall programme status is Green. Build in progress for Tranche 1 initiatives. Detailed requirements for Tranche 2 is at an advanced stage. Risk related to Tranche 1 Modification approval remains open.
Schedule	➔	System vendors are tracking to plan on their builds, test preparation has started. Detailed requirements for Tranche 2 is at an advanced stage, ISEM Technical Specification will be published in July. Target date for Tranche 1 Modifications approval of June 2024 has not been met, no immediate impact but the risk that changes will be required is present until Modifications are approved
Resourcing	➔	TSO/MO programme teams are fully staffed and engaged to continue work at pace.
Finances	➔	SEMC All-Island Programme sub-committee approved the full funding request for the S&D (phases 3-5) programme on 22nd March 2024.

Key Messages



MP Sentiment is Green (steady)

- MPs actively engaged and driving forward solutions
- Strong support for SDP



Key Activities For Action This Month

- Consultation on SEM-13-011 changes
- ISEM Technical Specification to be published



Positive Developments (Since Last Report)

- Consultation on SEM-13-011 changes commenced

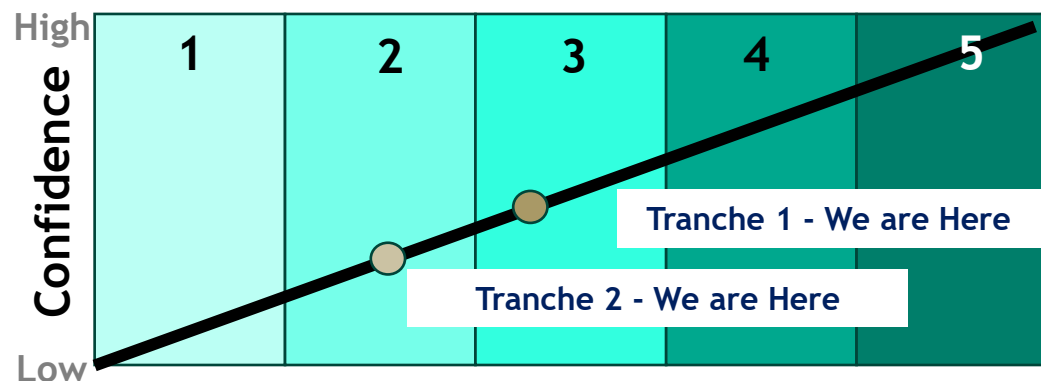


Challenges (Since Last Report)

- Target date for Tranche 1 Modifications approval of June 2024 has not been met

Scheduling and Dispatch: Phase 2 Milestones

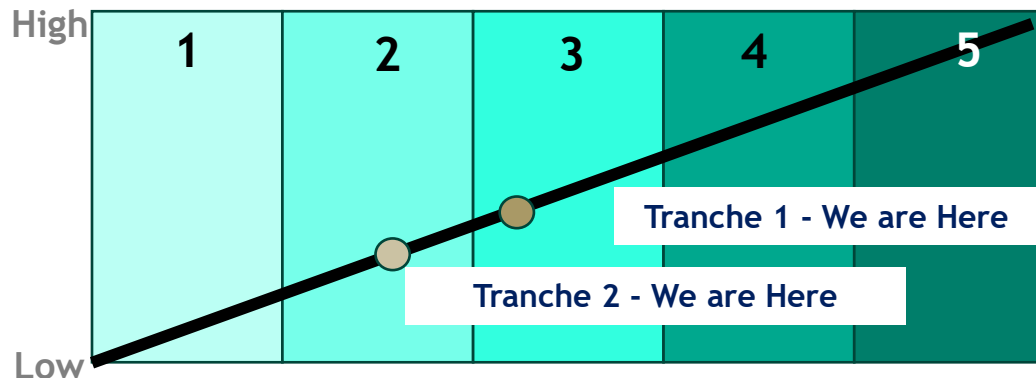
Tranche	Milestone	Dates
Tranche 1	Requirements Definition Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	September 2023 ✓
Tranche 1	System Design Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	March 2024 ✓
Tranche 1	TSC, CMS & GC Mods Review Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives by the relevant review group (Mods Committee, Grid Code Review Panel, Capacity Market Workshops respectively)	March 2024 ✓
Tranche 2	Requirements Definition Complete for Scheduling and Dispatch Programme Tranche 2 Initiatives	July 2024
Tranche 2	Publication of milestones for Scheduling and Dispatch Programme Tranche 2 Initiatives	September 2024



We currently have an overall **low - medium** level of confidence on the timelines. Confidence levels will increase as milestones are achieved and programme progresses further into Phase 3 for Tranche 1 and Phase 2 for Tranche 2

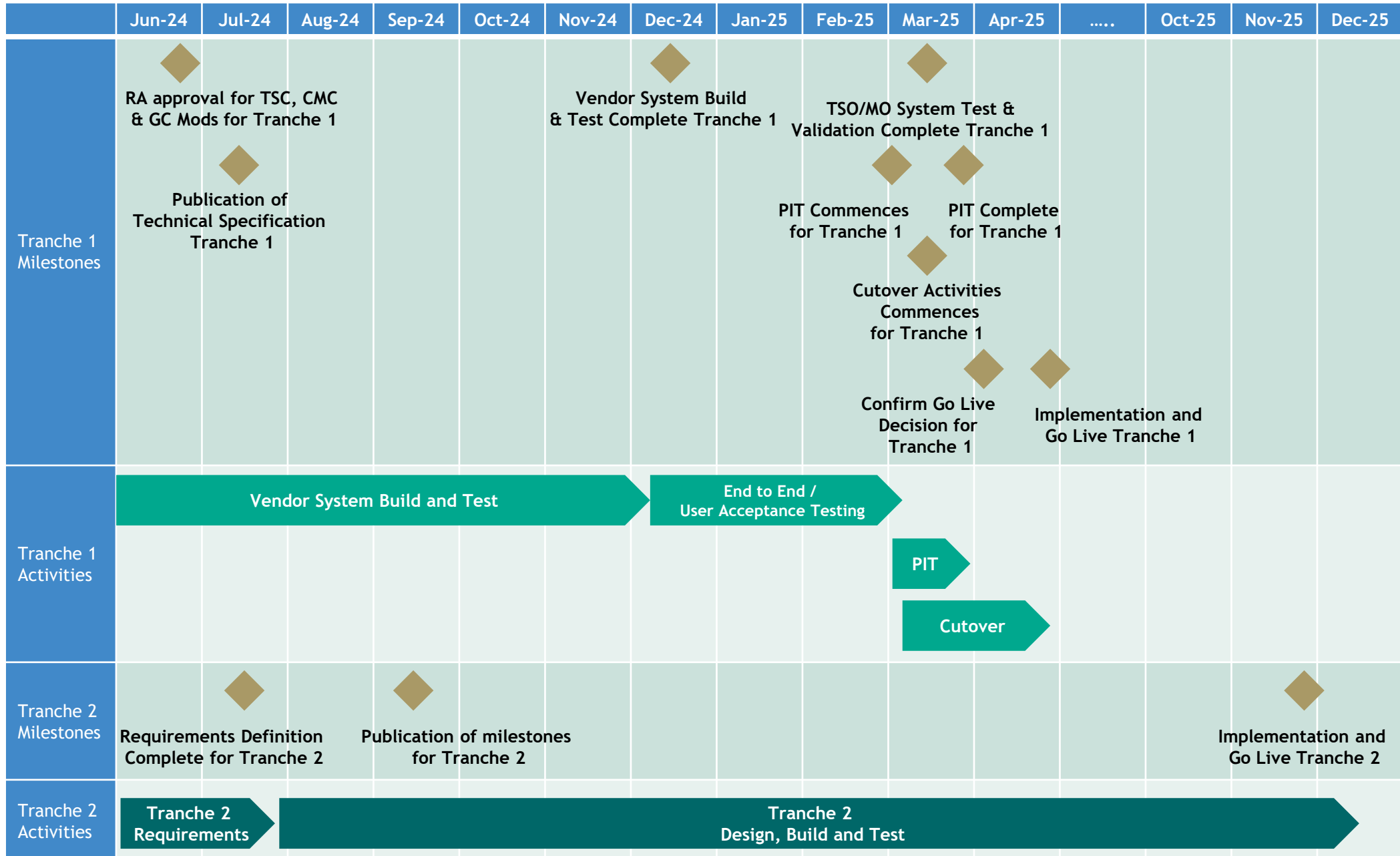
Scheduling and Dispatch: Phase 3 Milestones

Tranche	Milestone	Dates
Tranche 1	System Build Commenced for Scheduling and Dispatch Programme Tranche 1 Initiatives	March 2024 ✓
Tranche 1	Publication of key milestones for testing and go-live, including revised ISEM Technical Specification of Scheduling and Dispatch Programme Tranche 1 Initiatives	June 2024 ✓
Tranche 1	Regulatory Authority approval for Trading and Settlement Code (TSC), Capacity Market Code (CMC) & Grid Code Mods (GC) for Scheduling and Dispatch Programme Tranche 1 Initiatives	June 2024
Tranche 1	Publication of Technical Specification for Scheduling and Dispatch Programme Tranche 1 Initiatives	July 2024
Tranche 1	Vendor System Build and Test Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	Dec 2024
Tranche 1	TSO/MO System Test and Validation Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	Mar 2025
Tranche 1	Participant Interface Test (PIT) Commences for Scheduling and Dispatch Programme Tranche 1 Initiatives	Mar 2025
Tranche 1	Participant Interface Test (PIT) Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	Mar 2025
Tranche 1	Cutover activities Commences for Scheduling and Dispatch Programme Tranche 1 Initiatives	Mar 2025
Tranche 1	Confirm Go Live Decision for Scheduling and Dispatch Programme Tranche 1 Initiatives	April 2025
Tranche 1	Implementation and Go Live for Scheduling and Dispatch Programme Tranche 1 Initiatives	April 2025
Tranche 2	Implementation and Go Live for Scheduling and Dispatch Programme Tranche 2 Initiatives	Oct – Dec 2025



We currently have an overall **low - medium** level of confidence on the timelines. Confidence levels will increase as milestones are achieved and programme progresses further into Phase 3 for Tranche 1 and Phase 2 for Tranche 2

Scheduling and Dispatch - Milestone Plan



SDP Tranche 1 Initiatives - Modifications Update

SDP_01 Operation of Non-Priority Dispatch Renewables (NPDR)

SDP_02 Energy Storage Power Station (ESPS) Integration

SDP_04 Wind Dispatchability Improvements

Trading and Settlement Code

SDP_01 T&SC mod was recommended for approval by the Modifications Committee on 08-Feb and was sent for RA decision.

Updated SDP_02 T&SC mod was recommended for approval by the Modifications Committee on 23-Apr and was sent for RA decision.

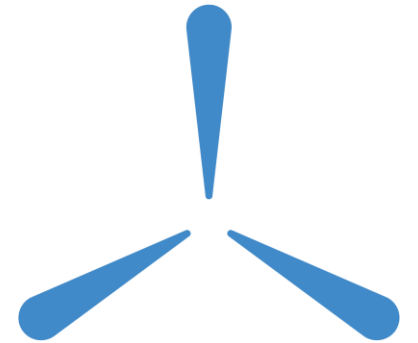
Grid Codes

The SDP_01 Grid Code mod has been reviewed by the Grid Code Review Panels/Joint Grid Code Review Panel on 20-Mar. Was recommended for approval by EirGrid panel, public consultation in NI has completed. Following on from consultation, recommendation paper will be issued to CRU and UR.

The SDP_02 Grid Code mod has been reviewed by the Grid Code Review Panels/Joint Grid Code Review Panel on 20-Mar. Panel members requested more time to review, may need to be brought back to panels in September if changes are required.

Public consultation for SEM-13-011 has commenced, closing 26-Jul.

ISEM Technical Specification (ITS)/SEMO Data Publication Guide (DPUG)



ISEM Technical Specification (ITS)

Summary

Updates to Registration, Market Interface Data and Market Interface reports as a result of the Tranche 1 initiatives of the Scheduling and Dispatch Change Programme. Complete description of all the changes made will be detailed in the ISEM ITS Release 9.7, Release Notes, that will accompany this document.

Area	What's New or Changed
Registration	<p><u>Resource Balancing:</u></p> <ul style="list-style-type: none">• Fuel Type: No change. ESPS units to be registered as existing Battery Storage type, NPDR units to be registered as existing Wind type.• Dispatchable: Must be true for Battery Storage units.• NPDR Flag: System generated value identifying whether a unit is a Non-Priority Dispatch Renewable based on Priority Dispatch, Dispatchable and Controllable registration flags. This value is used to determine appropriate data validations for market participant data submissions (as will be fully detailed in ITS) and will not be visible within the MPI.
Balancing Market Trading	<p><u>Commercial Offer Data:</u></p> <ul style="list-style-type: none">• Forecast Element: Battery Storage and Non-Priority Dispatch Renewable units can provide Forecast Availability, Forecast Minimum Stable Generation and Forecast Minimum Output.• Battery Storage Parameters (mandatory for Battery Storage units)<ul style="list-style-type: none">○ Operational Maximum Storage○ Operational Minimum Storage• Startup Costs (Hot, Warm, Cold): Must be 0 for all Battery Storage and Non-Priority Dispatch Renewable units• No Load Costs: Must be 0 for all Battery Storage and Non-Priority Dispatch Renewable units <p><u>Generator VTOD Data:</u></p> <ul style="list-style-type: none">• Block Loading Flag: Must be “false” for Non-Priority Dispatch Renewables and Battery Storage units.• Minimum Stable Generation: Must be 0 for Non-Priority Dispatch Renewables and Battery Storage units• Energy Parameters (for Battery Storage units only)<ul style="list-style-type: none">○ ESPS Storage Cycle Efficiency <p><u>Physical Notifications:</u></p> <ul style="list-style-type: none">• Curve Type: Must be A01 (Stepwise) for Non-Priority Dispatch Renewables units. Must be A04 (piecewise) for Battery Storage units.• From MW / To MW: Must be ≥ 0 for Non-Priority Dispatch Renewables but not for Battery Storage units

ISEM Technical Specification (ITS)

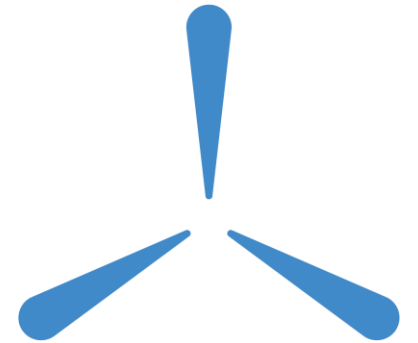
Summary	Updates to Registration, Market Interface Data and Market Interface reports as a result of the Tranche 1 initiatives of the Scheduling and Dispatch Change Programme. Complete description of all the changes made will be detailed in the ISEM ITS Release 9.7, Release Notes, that will accompany this document.
Area	What's New or Changed
Trading Reports	<p><u><i>RTD Merit Order List Schedule (REPT_004)</i></u></p> <ul style="list-style-type: none">• Member Private report containing cost curve and current dispatch information for units registered to each participant• Covers both incremental and decremental merit orders in same report• Will be produced on a 5 minute frequency following approval of each RTD run (similar to existing RTD Operational Schedule report) <p><u><i>Forecast Imbalance Report (REPT_042)</i></u></p> <ul style="list-style-type: none">• Separation of field TSO Renewable Forecast into TSO Renewable Forecast (Priority Dispatch) and TSO Renewable Forecast (NPDR)• Update to Calculated Imbalance calculation<ul style="list-style-type: none">○ Calculated as: TSO Demand Forecast - [Total PN + Net Interconnector Schedule + TSO Renewable Forecast (Priority Dispatch)]○ TSO Renewable Forecast (NPDR) is not included within the calculated as the PN volumes for Non-Priority Dispatch Renewable Units will already be included in the Total PN value. <p><u><i>Daily Technical Offer Data Report (REPT_011)</i></u></p> <ul style="list-style-type: none">• Additional field<ul style="list-style-type: none">○ ESPS Storage Cycle Efficiency <p><u><i>Commercial Offer Data Report (REPT_013)</i></u></p> <ul style="list-style-type: none">• Additional fields<ul style="list-style-type: none">○ Operational Minimum Storage○ Operational Maximum Storage

SEMO Data Publication Guide (DPUG)

Summary	<p>Scheduling and Dispatch Change Programme related Balancing Market Publication Detail changes for the following reports:</p> <ul style="list-style-type: none">• BM-014: Forecast Imbalance Report• BM_032: Daily Technical Offer Data Report• BM_034: Commercial Offer Data Report <p>Further changes related to general document clean-up.</p>
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Area	What's New or Changed
Balancing Market Data	<p><u>Forecast Imbalance Report (BM-014)</u></p> <ul style="list-style-type: none">• Separation of field TSO Renewable Forecast into TSO Renewable Forecast (Priority Dispatch) and TSO Renewable Forecast (NPDR)• Update to Calculated Imbalance calculation<ul style="list-style-type: none">○ Calculated as: TSO Demand Forecast - [Total PN + Net Interconnector Schedule + TSO Renewable Forecast (Priority Dispatch)]○ TSO Renewable Forecast (NPDR) is not included within the calculated as the PN volumes for Non-Priority Dispatch Renewable Units will already be included in the Total PN value. <p><u>Daily Technical Offer Data Report (BM-032)</u></p> <ul style="list-style-type: none">• Additional field<ul style="list-style-type: none">○ ESPS Storage Cycle Efficiency <p><u>Commercial Offer Data Report (BM-034)</u></p> <ul style="list-style-type: none">• Additional fields<ul style="list-style-type: none">○ Operational Minimum Storage○ Operational Maximum Storage <p><u>General Document Clean-Up</u></p> <ul style="list-style-type: none">• Revised descriptions for various reports• Formatting changes

NI Negative Reserve Trial



Background

Problem:

Currently SONI cannot fully utilise the frequency response capability of NI WFs

- Today, the Operational requirement to carry 50MW of negative reserve can only be fulfilled by conventional generation, thereby increasing curtailment of wind generation in NI
 - If NI wind generation can provide this frequency regulation, then NI wind curtailment will be reduced
-
- Issues with selecting NI WFPS to apply $\pm 15\text{mHz}$ deadband (frequency regulation)
 - IE select Active Power Control (APC) mode for windfarms, no APC mode in NI
 - Has delayed progress on negative reserve trial as we require WFPS to regulate frequency in place of conventional generation/inertia response

IE Wind Control Modes	NI Wind Control Modes
Normal Operation - resource following	Normal Operation - resource following
MW Setpoint mode	MW Setpoint mode
Curtailment mode - APC Mode Added	%MW Curtailment mode - No APC Mode Added

Interim Proposal

- An enduring solution is expected to be delivered through the Scheduling & Dispatch project
- However, in the short term, to facilitate the commencement of the NI Negative Reserve trial, we propose to ask windfarms to change their frequency dead band from + 150mHz to \pm 15mHz in MW setpoint mode only to allow frequency response before moving to begin negative reserve trial in NI
 - The reasoning for this proposal is that it is the most straightforward and time effective.
 - No changes would be required to normal windfarm operation.
 - This approach would require windfarms to change their windfarm controllers to adopt the proposed dead band changes

SDP_005: Reserve Services Scheduling and Dispatch - Day in the life

Submit and validate transactional data



TSO determines indicative operations schedules (LTS, RTC, ...)

- Units verified as able to provide each reserve type will have Reserve Capability Curves (submitted via TSO approval process)
- Units verified as able to provide each reserve type will submit unit declarations via EDIL (where using EDIL) or will have no cap to the Reserve Capability Curve
- Units provide COD, TOD, Forecast Availability and Physical Notifications as required for the Unit type

Approach

- Build on negative reserve proposal and current initiatives without impact to agreed designs.
- Explore options to improve the flexibility of our systems to enable greater utilisation of high and low frequency response from the wind and solar in Northern Ireland.

Control Room Engineers use scheduling outcomes as decision support for dispatch decisions, In real-time. Control Room Engineers have a real-time view of reserves via the EMS and capability to configure response.

Control Centres(s) make dispatch decisions

Balancing actions are included in pricing, with flagging/tagging applying reserve SO flagging rules. Settlement of reserve provision is via existing system services settlement processes

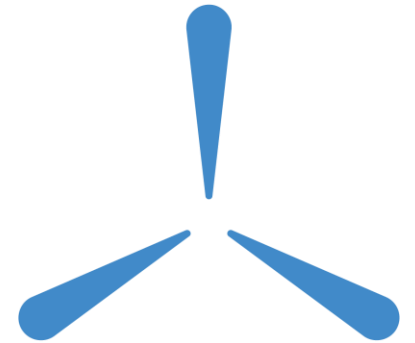
Approved DIs issued to Generator Units

Units receive dispatch instructions via EDIL or EMS

Pricing and imbalance settlement (based on DIs, PNs and metering)

Important Note: reserve modelling is already in place – this initiative is to ensure that all reserve contributions can be taken into account in scheduling by Control Room Engineers

SDP Q&A



Stakeholder Engagement: FPM Industry Workshop

Contacting FPM Programmes

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

Contact



SDP Queries

SchedulingandDispatch@Eirgrid.com

LDES Queries

LDES@Eirgrid.com

LDESProgramme@soni.ltd.uk

FASS Queries

FASS@Eirgrid.com

FASSProgramme@soni.ltd.uk

SMP Queries

SMP.PMO@Eirgrid.com

FPM 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

Future Power Markets: Industry Workshop

Future Workshop Schedule

Date	Time	Location
03 July 2024	10:30-13:00	Herbert Park Hotel, Dublin
14 August 2024	TBC	Online
11 September 2024	TBC	Dundalk
09 October 2024	TBC	Belfast
06 November 2024	TBC	Dublin
04 December 2024	TBC	Dublin



Future Discussion Topics

- SDP
 - ESPS and NPDR Modification Approval - Updates
 - Ongoing NPDR designation process updates
- LDES
 - Continuing to liaise with the RAs and Departments on next steps
- FASS
 - DASSA Design Recommendations - updates
 - Product Review & Locational Methodology Recommendations - updates
 - System Services Supplier Charge consultation - workshop on paper
 - Code Development Working Group - ongoing updates
- SMP
 - Additional details on functional approach
 - Additional topics TBD based on feedback
- EMP
 - TBD