

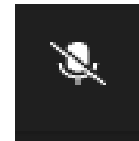
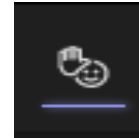
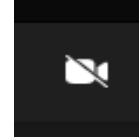
# Market Operator User Group

25<sup>th</sup> January 2024



# Housekeeping Rules

- Please keep your video switched off
- Raise your hand if you have a question
- When asked to unmute your line



*Thank you for your cooperation.*



# Welcome

# Anne Fitzgerald



Agenda Items	Presenters
Welcome	Anne Fitzgerald
Release Program	Mark Hogan
Future Markets: Scheduling and Dispatch	Seve Garanzuay
Future Markets: Strategic Markets Programme	Alan Prout
Ex-Ante Markets	Joaquin Iniguez de Gante
SEMOpX & SEMO Trading	Michael Atcheson
Settlements	Seán O'Rourke
System Operations NI	Conleth McAteer
System Operations IE	Charlie McGee
Market Interface	Rosaleen Fanning





# Release Program

Mark Hogan



# Release Program Update - last 12 months

- Release K and L was deployed as one release on August 15, 2023
  - This was to allow SEMO to support the treatment of emergency generation in the market before September 2023
- Release L.1 was deployed on November 14, 2023

Release	Hitachi Energy ref.	Description
L.1	20230503-6156702	Update to correct date format for “Mod_13_19 Payment for Energy Consumption in SEM for non-energy Services Dispatch”
	20230327-6145568	Issues with DAM trades not imported into ISEM CSB
	20230428-6155493	SQL Error while building Generator Sync. CB table during CIM import.
	20211218-5910627	CIM upload generates "spurious" errors in error file. Reported in red text with "E" in sequence messages.



# Release Program Update: Releases in next 12 months

- Release M will include changes for Greenlink and is currently in test in EirGrid. The deployment date is subject to overall Greenlink deployment requirements.
- Release N will include the first tranche of changes for Schedule and Dispatch (SDP)
  - Currently in detailed design with the Vendor
  - Release dates to be confirmed
  - Subject to RA funding
- 3rd party software to be updated.



# Release Program Update

- Extensive market infrastructure refresh project underway
  - Replacing and updating infrastructure supporting ISEM virtual machines
  - Review of Market database architecture to reduce size of individual databases
- Microsoft has committed to supporting Microsoft Edge with IE mode until “at least 2029” ([link](#)) so we continue to recommend that approach until we have implemented native Edge and Chrome compatibility.





# Release M & N Contents

Release	Change Request ref.	Description
M	212	CSB/MI Value Import Screen Change
	301	Issuing audio alarms for any failing MMS applications
	303A	Greenlink: Registration, Market Information and Market Participant Interface changes required for Greenlink
	303B	Greenlink: Market Application changes required for Greenlink
	304	Treatment for Firm Curtailment (Part of SEM 22 009 decision - CEP Article 13.7 )
N	SDP_01	Operation of Non-Priority Dispatch of Renewables
	SDP_02	Energy Storage Power System Integration requirements

# Future Markets: Scheduling and Dispatch

Seve Garanzuay





# 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.

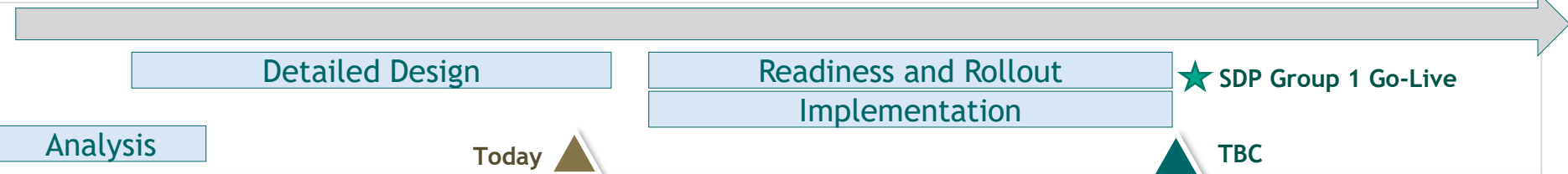
1. **SDP\_001:** Operation of non-priority dispatch of renewables (NPDR)
2. **SDP\_002:** Energy Storage Power Station (ESPS) integration
3. **SDP\_003:** Fast Frequency Response (FFR)
4. **SDP\_004:** Wind/solar dispatchability improvements
5. **SDP\_005:** Reserve services scheduling and dispatch
6. **SDP\_006:** Synchronous condenser scheduling and dispatch

## Delivery Groupings

- Group 1**
- SDP\_001
  - SDP\_002
  - SDP\_004

- Group 2**
- SDP\_003
  - SDP\_005
  - SDP\_006

## SDP Timeline





# SDP: Status Update (Jan. 2024)

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

Refreshed: 09 Jan 2024

This update is provided to the MOUG - Jan 2024

**SDP** Summary Status

Overall Status		Overall programme status is red - at risk due to timeliness of funding decision. Good pace of detailed design and stakeholder engagement. Strong support for SDP across stakeholder community.
Schedule		SDP team working with IT vendors on detailed design. As funding not yet approved, SDP replanning underway.
Resourcing		TSO/MO programme teams are fully staffed and engaged to continue work at pace. However, without funding, resourcing will be revisited.
Finances		Awaiting RA decision on SDP Phases 3-5 funding.

Key Messages



**MP Sentiment is Amber (worsening)**

- MPs actively engaged and driving forward solutions
- Strong support for SDP
- **Serious concern over SDP timelines expressed**



**Key Activities For Immediate Action**

- Funding approval
- Programme replanning
- NPDR modification discussion
- Rebalancing/redispaching consultation
- Tranche 2 design and engagement
- Published SDP timelines



**Positive Developments**

- Approval on ESPS changes in MODS Committee
- Continuing Detailed Design at pace (T1), HLR Validation (T2)
- Strong stakeholder engagement and alignment on f(x) approach



**Challenges**

- Funding uncertainty persists
- SDP Timeline publication



# Future Markets: Strategic Markets Programme

Alan Prout





# What is the Strategic Markets Programme? - Shaping Our Electricity Future Roadmap

- The “[Shaping Our Electricity Future Roadmap Version](#)”, published in July 2023, outlines “*a roadmap to achieve our renewable ambition*”.
- The Roadmap provides a commitment to the public and market participants on what EirGrid, SONI and SEMO plans to deliver by 2026.
- In April 2023, the Strategic Markets Programme (SMP) was established to define a plan for delivery of the projects as defined by “Shaping Our Electricity Future Roadmap Version 1.1” to achieve the strategy.
- Pillar 2<sup>1</sup> of this roadmap, which defines “full integration of the SEM into GB and EU markets”, provides the scope of delivery for this programme.

## Scope of the SMP:

### Full integration into EU

Once the SEM is physically connected with continental Europe after the Celtic Interconnector goes live, there will need to be full integration into EU forwards, day-ahead, intraday, and balancing markets. This involves re-coupling the day-ahead market but also new arrangements for coupled intraday markets and participation on the EU balancing platforms

### Post Brexit Trading Arrangements

Following Brexit we only have local intraday auctions between SEM and GB. We will need to implement the changes that arise from the ongoing UK and European Commission discussions on same

### Balancing Market Updates

This will investigate items like scheduling of long duration storage, enduring implementation of Non-Priority Dispatch Renewables and Dispatchable Demand.





# Strategic Markets Programme - Key Benefits

The SMP will fully integrate the SEM with the pan EU markets, alongside implementation of a solution for trading between the SEM and GB market with enhancements to the balancing market arrangements to incorporate new technologies that are being explored by participants in the SEM.

**The benefits of integration with European markets include;**

- *security of supply;*
- *promotion of renewable energy sources;*
- *establishment of a level playing field in which competitors can flourish;*
- *maximise the efficient use of interconnectors; and*
- *provision of a sound investment climate that is based upon a stable and predictable regulatory framework.*

**Delivering on obligations within;**

- *the Clean Energy Package (CEP);*
- *the Climate Action Plan for Ireland; and*
- *the Climate Change Act (Northern Ireland) 2022 (Act).*

Appropriate trading arrangements between the SEM and Great Britain post Brexit, and other obligations under European Union regulations.

Successful implementation of the programme will deliver many benefits for consumers in Northern Ireland and Ireland such as;

- *Full coupling of ex-ante markets (across day-ahead and intraday) with European partners to facilitate efficient trading between the SEM and European markets*
- *Full coupling will also provide the capability for export of excess renewable generation. This will provide value for consumers in the SEM where unused energy can be sold to foreign consumers rather than remaining unsold. And will aid in the achievement of renewable energy and Carbon and GHG targets*
- *Integration with EU balancing mechanisms will facilitate trade of reserves with foreign providers, yielding value for consumers in the SEM, as well as with local providers thus incentivising investment in key technologies to support renewable integration*

Compliance of the SEM with EU regulations (EU) 2016/1719 FCA, (EU) 2015/1222 CAM, and (EU) 2017/2195 GLEB



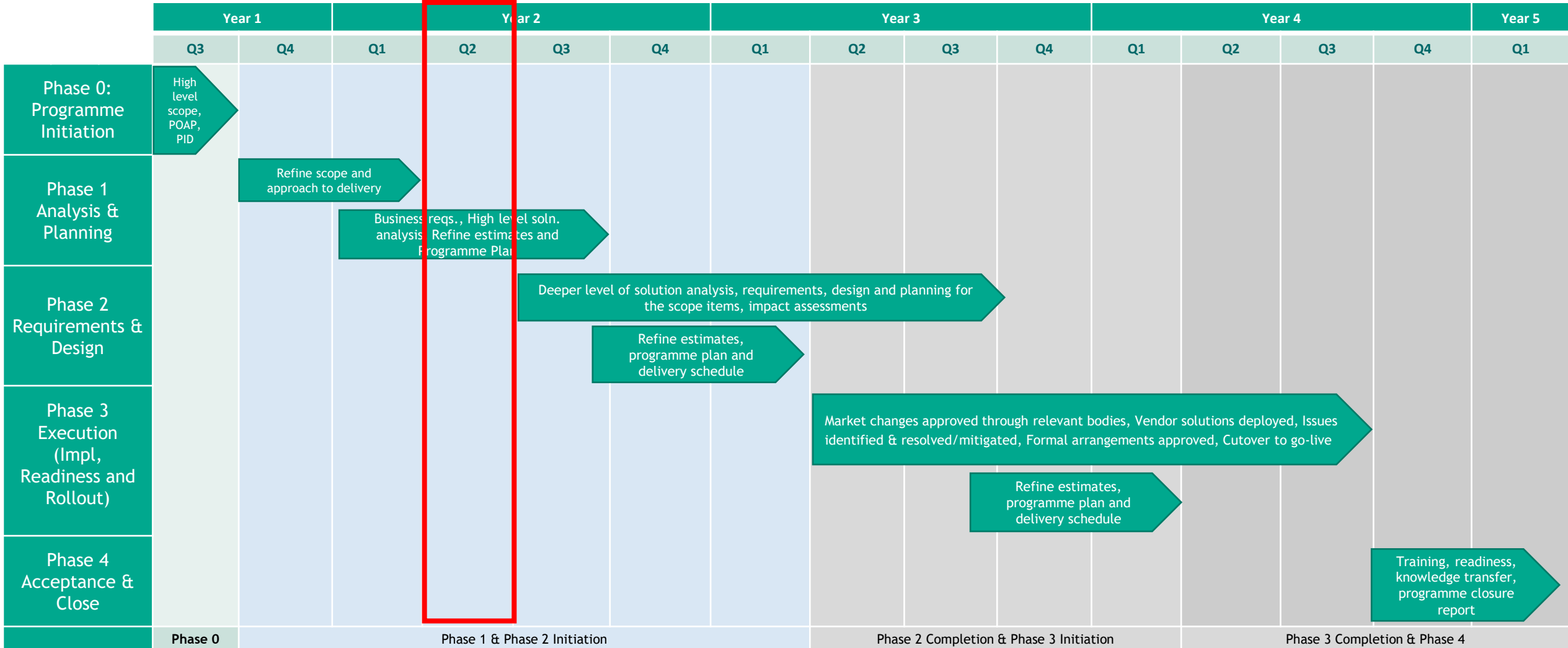
# SMP Indicative High-Level Programme Plan On A Page (POAP)

- The POAP is a High-Level Indicative plan which will be refined throughout Phase 1: Analysis & Planning.
- The POAP should be considered a living document and will be continuously updated as more information becomes available.
- A key aspect as we move through the programme is to understand what can be delivered and when it can be delivered.
- The SMP is at an early stage of understanding the full scope and approach to delivery of the requirements, it is clear, even at this early juncture, that implementation of the SMP will be significant
- A funding Application was provided to the Regulatory Authorities (RAs) in December 2023 to enable the full mobilisation of the programme. This is a crucial piece to allow us tool up within the TSOs and MO to carry out the engagement with industry, analysis and planning
- There is a level of confidence in the High-Level timelines for Phase 1, however, this confidence reduces for future phases, with very low confidence in timelines for Phases 2, 3 and 4.



# Strategic Markets Programme - Indicative High-Level Programme Plan On A Page (POAP)

Critical Path Milestone:  
Funding Application to be approved by RAs within Q2 





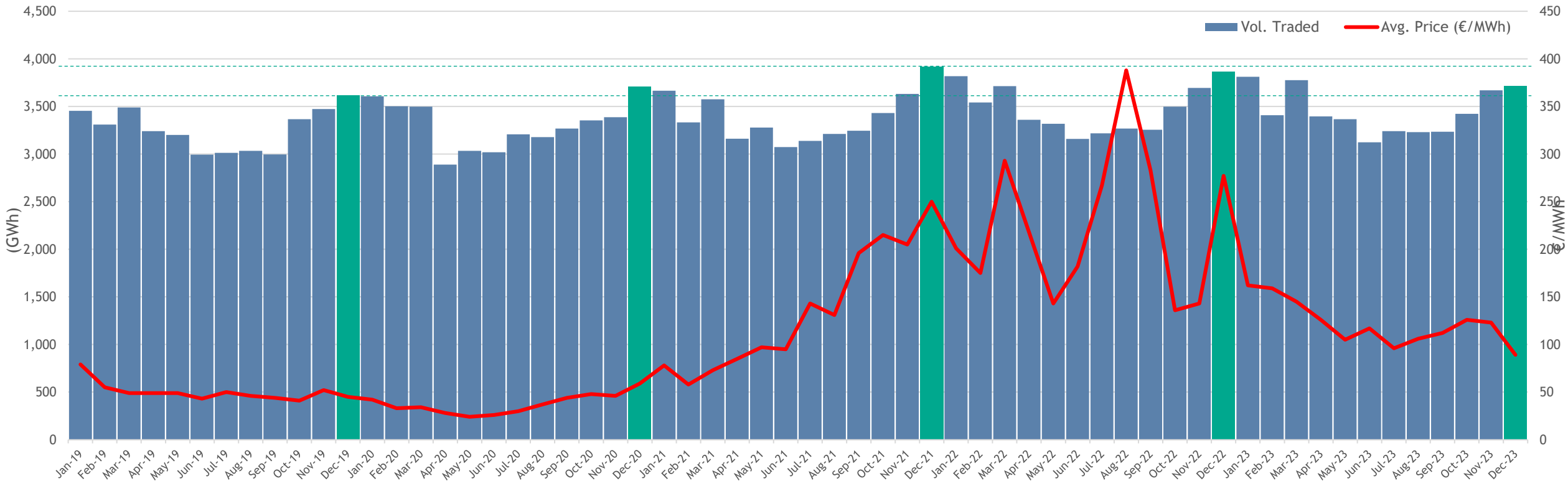
# Ex-Ante Markets

Joaquin Iniguez de Gante



# Ex-Ante Markets

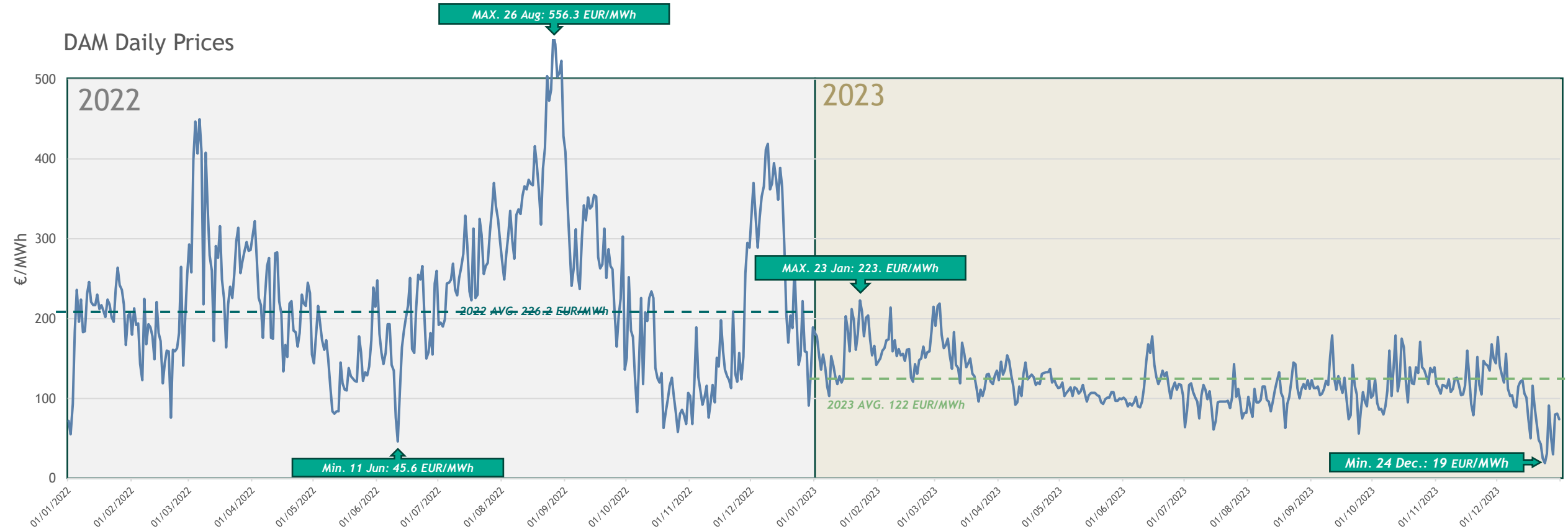
Volume Trade vs Average Price (DAM)



- Traded Volumes in the DAM remain at historical trends, however there is a 3% decrease this December compared to last year (this may be due to higher temperatures).
- Continuous decrease in energy prices (-28%) highly linked to gas prices and wind generation.

# Ex-Ante Markets

DAM Daily Prices

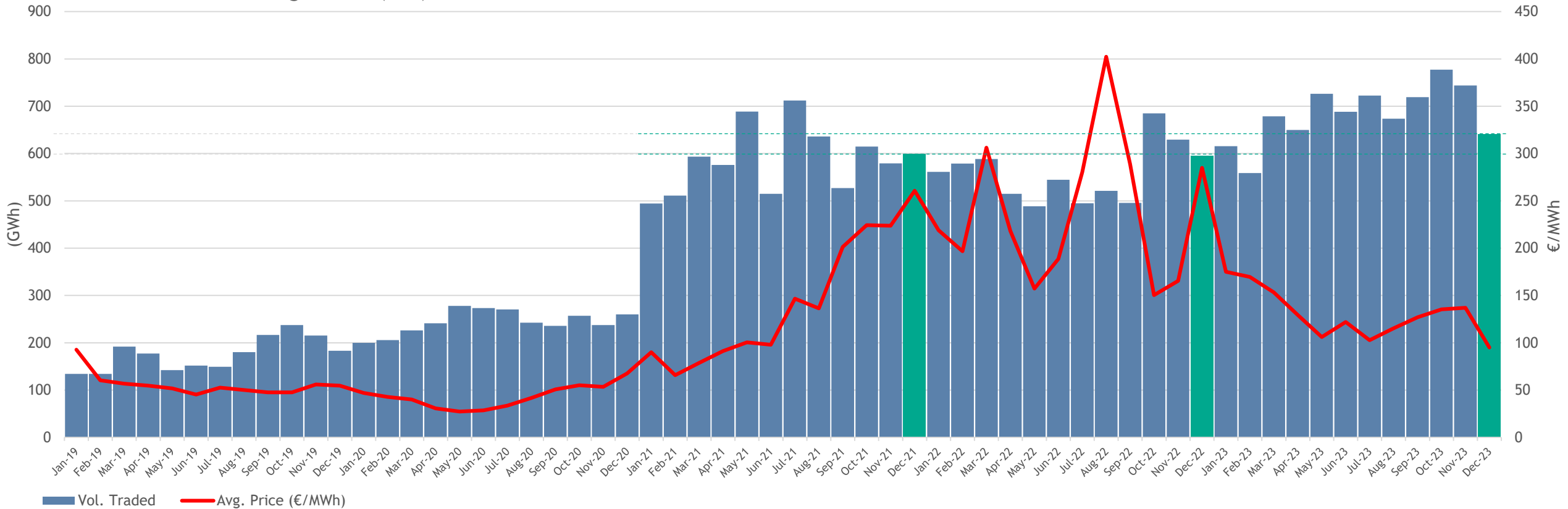


- DAM Prices in 2023 were in the range of 223 to 56 €/MWh (average day) until December, where there was a considerable decrease of 28% in prices. Attributed to decrease in gas prices, low demand and wind generation.
- On December 24, a price of €19/MWh was recorded (*one of the lowest average prices seen since 2020*).



# Ex-Ante Markets

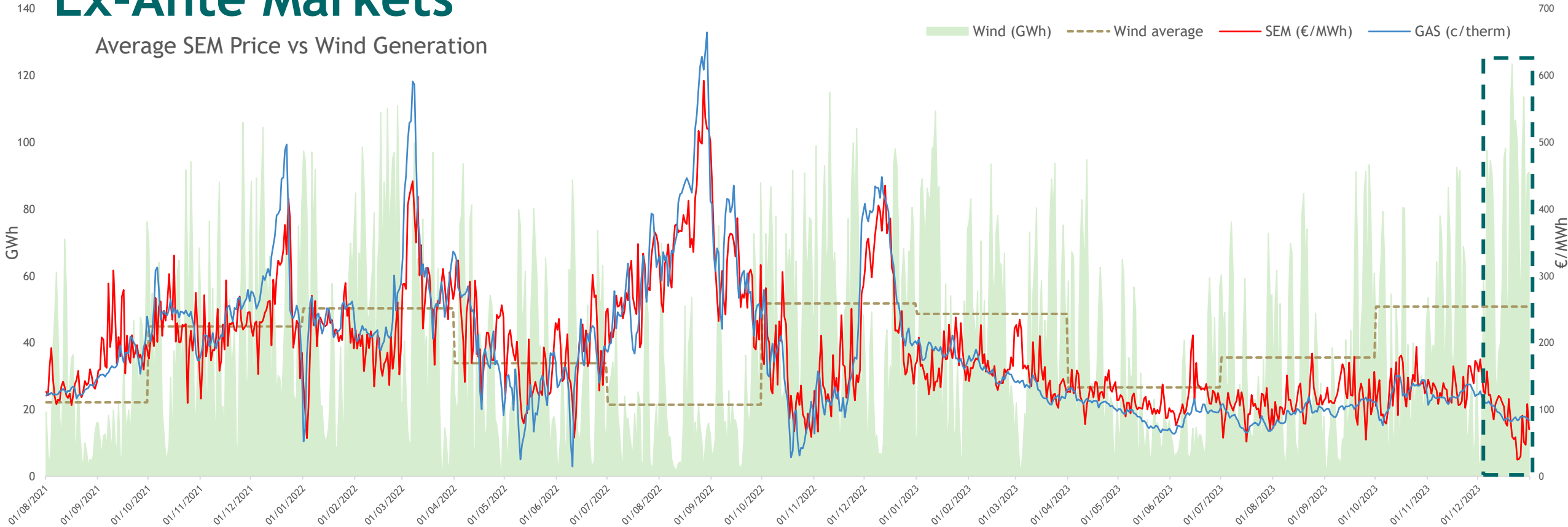
Volume Trade vs Average Price (IDA)



- Price trends follow closely DAM pattern.
- Traded Volume continue to be influenced by interconnection.
- There was a 13% decrease in volume from November to December which could be related to the 30% decrease in GB imports.

# Ex-Ante Markets

Average SEM Price vs Wind Generation



- Gas price seems to maintain a downward trend, which may be due to the "good" storage levels in Europe, low demand and good renewable generation.
- In the week 52 was one of the records in wind penetration, achieving a week average of 49 Euro/MWh

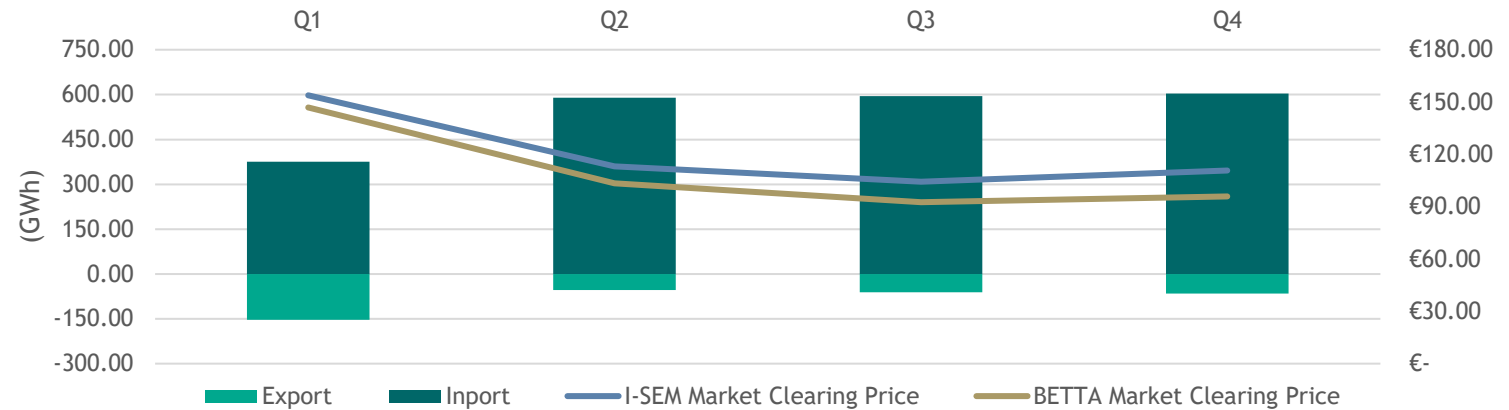
# Ex-Ante Markets

- 2023, there has been an increase in GB power import activity, which can be attributed to the "return to normal" of the generation mix in Europe, renewable penetration and lower gas prices.

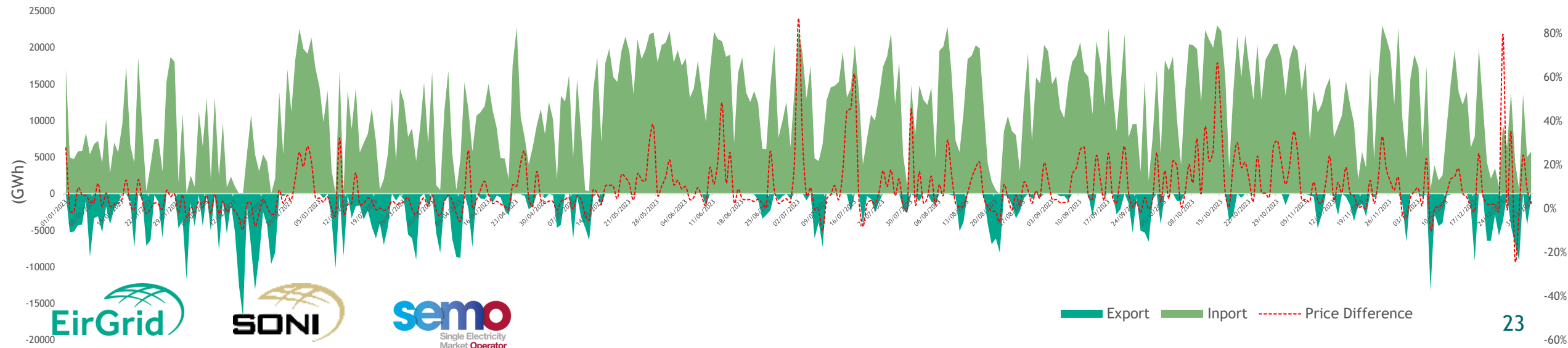
## Penetration of Renewables vs. Gas

2023	Renewable GB	Gas GB	Renewable IE	Gas IE
Q1	41%	36%	41%	59%
Q2	35%	41%	29%	71%
Q3	38%	37%	36%	64%
Q4	43%	31%	43%	57%

Interconnection Vs Avg. Price IE-GB (IDA1) 2023



Interconnection Vs Price difference IE-GB (IDA1) 2023





# SEMOpX & SEMO Trading

Michael Atcheson



# ETS Releases

Version	Content	Client	Impact	Timeline*
V3.8	TBC	TBC	TBC	TBC



# ETS Maintenance Windows

Date & Time	Impact	Reason	Communication
13/02/2024	Maintenance	Monthly Maintenance	OMM message (email sent a week in advance and on the same morning)
12/03/2024	Maintenance	Monthly Maintenance	OMM message (email sent a week in advance and on the same morning)
09/04/2024	Maintenance	Monthly Maintenance	OMM message (email sent a week in advance and on the same morning)
14/05/2024	Maintenance	Monthly Maintenance	OMM message (email sent a week in advance and on the same morning)



\*Regular maintenance: Between 18:40 and 21:15 GMT/IST every 2<sup>nd</sup> Tuesday of the Month.





# M7 Releases

Version	Content	Impact	Timeline
V6.17		2FA to be mandatory	Q2 2024 (Date TBC)



# M7 Maintenance Windows

Date & time	Impact	Reason	Communication
13/02/2024	Maintenance	TBC	M7 chat message (1 hour before the maintenance) + OMM message (email sent a week in advance and on the same morning)
12/03/2024	Maintenance	TBC	M7 chat message (1 hour before the maintenance) + OMM message (email sent a week in advance and on the same morning)
09/04/2024	Maintenance	TBC	M7 chat message (1 hour before the maintenance) + OMM message (email sent a week in advance and on the same morning)
14/05/2024	Maintenance	TBC	M7 chat message (1 hour before the maintenance) + OMM message (email sent a week in advance and on the same morning)



\*Regular maintenance: Between 18:40 and 21:15 GMT/IST every 2<sup>nd</sup> Tuesday of the Month.



# SEMOpX Update

- With the introduction of 30 Min MTU in the DAM in Ireland and respectively 15 Min MTU across Europe, the size of all files, particularly the BidFile, is expected to increase significantly.
- **Current Bidfile (includes Order Version History):** Every version (active and non-active bids) of a submitted order logged in ETS is included in the BidFile.
- **Proposed New Format of Bidfile:** Removal of Non-active bids from the Bidfile. Only the active bids will be included in the BidFile.
- SEMOpX would like to better understand members' use of the Order Version History in the ETS Bidfile. Therefore, feedback is requested from members who currently use non-active bids from the BidFile and would like SEMOpX to retain this information. Please submit all feedback to [info@semopx.com](mailto:info@semopx.com).



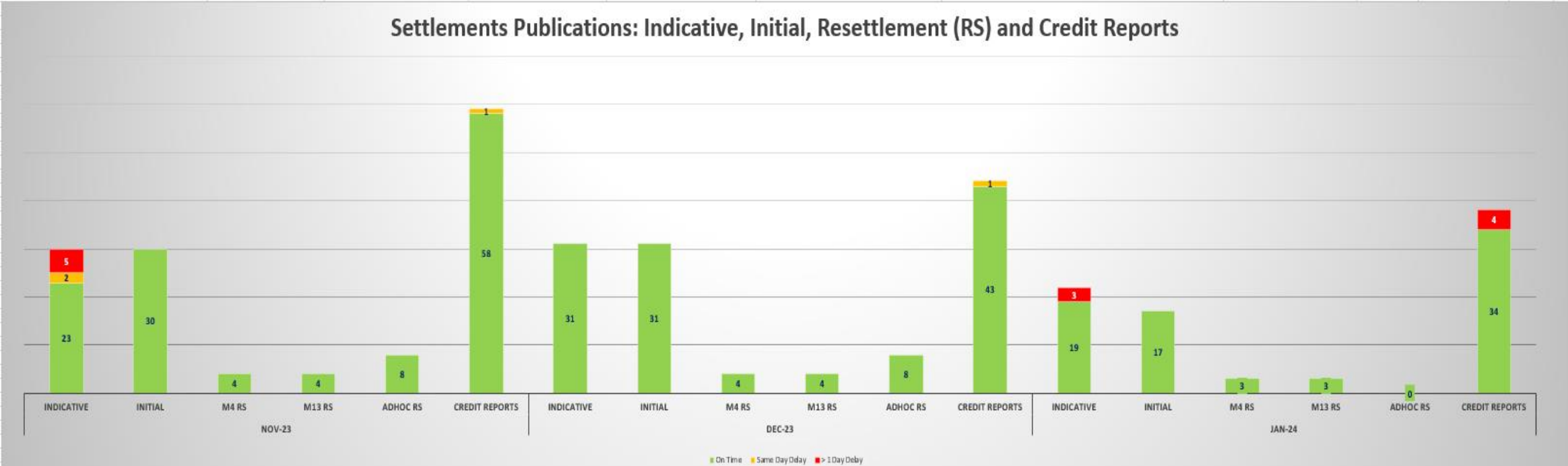


# Settlements

Seán O'Rourke



# Settlement publications & timelines: Nov'23 - Jan 17<sup>th</sup> 2024



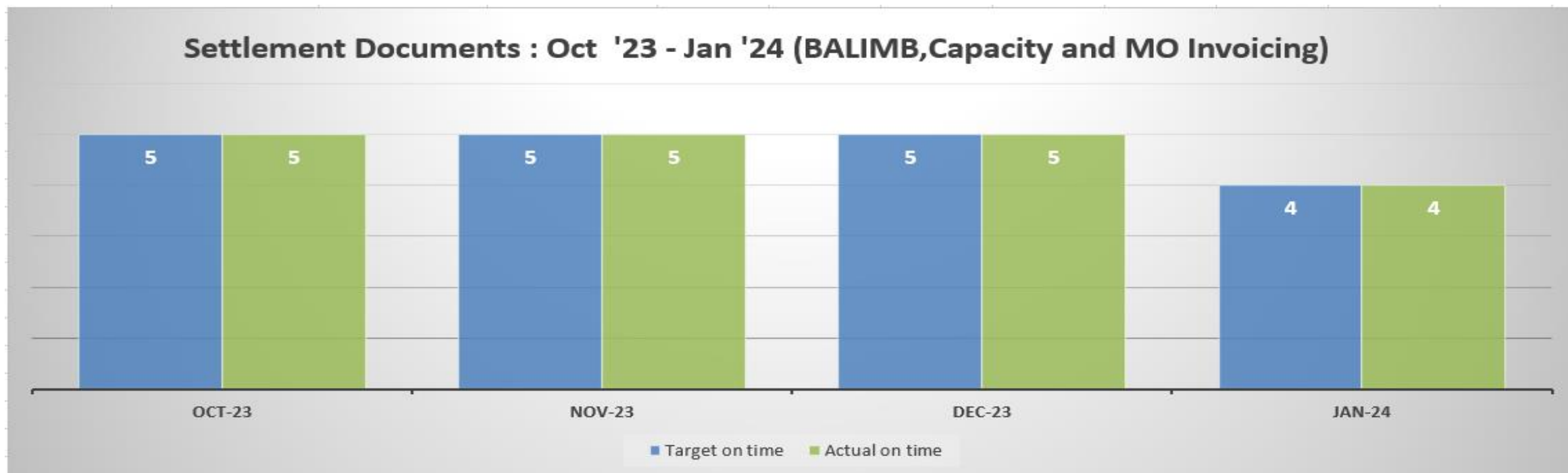
- Nov 2023**
- **127** settlement publications on time
  - 7 delayed indicatives due to delayed MDP data(2) , Instruction profiler issues (4), Actual Availability data (ACTA, 1)
  - All issues now resolved

- Dec 2023**
- **127** settlement publications on time
  - All publications on time

- Jan 2024**
- **79** settlement publications on time
  - 3 delayed indicatives due to CRM calculation performance issue (2) , ACTA (Actual Availability data) - (1)
  - 4 Credit reports not published Jan 2<sup>nd</sup> & 3<sup>rd</sup> due to database issues. Resolved for Jan 4<sup>th</sup>.
  - All issues now resolved



# Settlement Documents publications: Oct '23 - Jan 19<sup>th</sup>



## Settlement Document updates:

- 19 Settlement Documents (SDs) published on time between Oct 2023 and Jan 19<sup>th</sup> 2024 (includes BALIMB, Capacity and MO Invoices)



# Ad hoc resettlement: Status update Jan 2024

Year	2018												2019												2020																																									
Week	39	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Adhoc1	[Green cells]																																																																	
Adhoc2	[Green cells]																																																																	

Cells in Red are adhoc weeks left to process  
 Cells in Green are settlements runs that have been issued

- Ad hoc iteration 1 is now fully complete.
- Ad hoc iteration 2 is now fully complete.
- There are 24 billing periods between 2020 and 2022 which require a final iteration of ad hoc resettlement. These billing periods are based on outstanding upheld formal queries which were dependent on a system fix to be deployed to fully resettle the impacted billing periods.
- Of the 24 billing periods, 14 billing periods will be scheduled for Ad hoc resettlement over the months of February to April 2024.

Year	Ad hoc billing periods - number of weeks which can be scheduled for processing	Specific billing period weeks which can be resettled	Settlement Calendar timeline	Year	Ad hoc billing periods - number of weeks which under review	Specific billing period weeks which are under review	Settlement Calendar timeline
2020	3	1,49 & 50	Feb-24	2020	2	10,26	tbc
2021	6	1,8,28,29,31,37	tbc	2021	6	26,33,34,42,44,47	tbc
2022	5	12,24,26,30,48	tbc	2022	2	10,45	tbc
<b>Total</b>	<b>14</b>	<i>Scheduling in progress</i>		<b>Total</b>	<b>10</b>	<i>System requirements under review</i>	

# Settlements: Oct 2022 FMOC invoice update

- FMOC Invoice published on Nov 15th included the incorrect CMOAU and CMOAV rates for ROI and NI market participants: Ref: [Market message](#) published on the 18/11/2022.
  - As per previous MOUG updates, SEMO Settlements had intended to publish an Oct 2022 MO Invoice which will reverse the original invoice issued, and to then re-publish the correct Oct 2022 MO invoice with the correct rates. End-to-end testing was required to complete the testing of this approach. As per TSC code, settlement systems are not designed to apply standard M4/M13 resettlement to FMOC data.

## MOUG Jan 2024 update:

- Testing outcomes have shown that that it is not possible to process reverse invoices on the Oct 2022 FMOC within the settlement systems. This is due to the timing and sequencing of Oct 2022 MO invoice resettlement data which has since been processed and published as an M13 MO Invoice.
- The overall materiality estimated within the test environment is ~€54K due to ROI market participants (38) and ~£10K due to NI market participants (19) . ~€150 is owed to SEMO.
- SEMO Settlements are committed to resolving this issue with the market, and now intend to issue a manual MO Invoice (PDF format) to impacted market participants which will reconcile the delta amount to be paid out by SEMO (or due to SEMO).
- The manual invoice will be issued out a week or two in advance of a standard monthly MO Invoice run (2nd Tuesday of each month) to allow participants additional time to process, with payments in/out for the manual invoice to be aligned with a standard monthly scheduled MO Invoice payments in/out dates.
- Interest will not be applied to payments or charges for this manual FMOC reconciliation.
- More details on this approach and planned timings will be communicated through market messages and at one of the upcoming weekly market participant calls in Feb 2024, with week of March 4th targeted to issue out the manual PDFs.

# Settlement Documents to issue: Friday 26<sup>th</sup> Jan 2024

[Settlement Calendar \(sem-o.com\)](http://sem-o.com)

## Settlement Documents Friday 26<sup>th</sup> January

**INITIAL BALIMB - (14/01/24-20/01/24) - Week 03 2024**

**M+4 BALIMB - (24/09/23-30/09/23- Week 39 2023**

**M+4 CRM - Sep 2023**

**M+13 BALIMB - (25/12/22-31/12/22) - Week 52 2022**

**M+13 CRM - Dec 2022**

**BAU Ad hoc Week 47 2023 (19/11/2023 - 25/11/2023)**





# System Operations NI

Conleth McAteer



# Winter 2023/24 to date

- Generation margins have been tight throughout the winter period at times of low renewable generation
- There has been good interconnector support from GB throughout the winter period when required. Even at times when GB have had low generation margins, support has been available from Europe

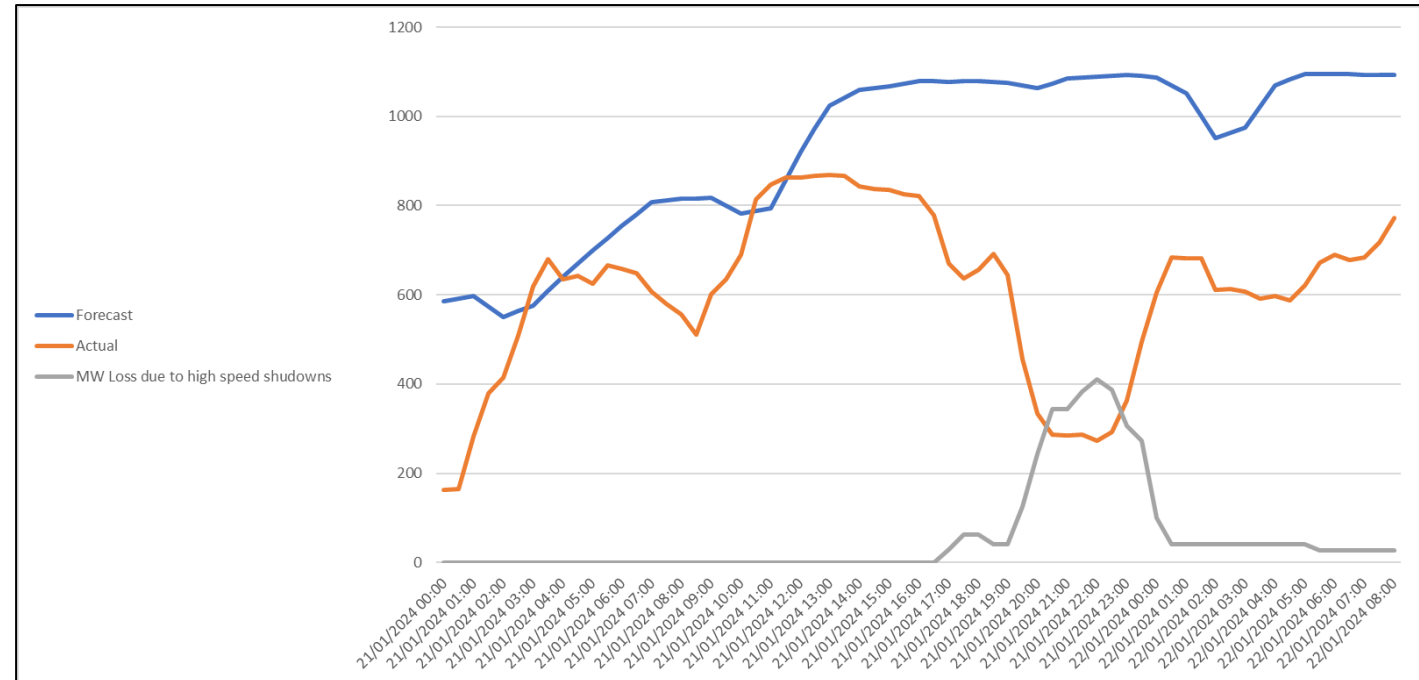
## Amber Alert in Northern Ireland - 15 January 2024

- A System Alert was issued from 17:00 until 18:30 on the evening of 15 January 2024 due to high demand and low renewable generation availability.
- Wind availability was 25 MW at peak
- Full import on Moyle Interconnector towards Northern Ireland over system peak with EWIC importing 504MW to Ireland
- Conventional generation availability was high in Northern Ireland (98%)
- DSU availability remained poor with 29 MW available of total contracted capacity of 97MW
- System Alert passed without incident, with generation margins remaining tight throughout the remainder of the week



# Storm Isha

- Transmission system in Northern Ireland remained intact
- Significant disruption to the Distribution system
- Wind forecast predicted wind generation >1000 MW
- Moyle interconnector exporting 181 MW from Northern Ireland to Great Britain
- Due to severe wind speeds, High-Speed Shutdown (HSSD) was expected, however the level of HSSD that occurred (up to 60 %) was in excess of expectations
- This level of HSSD on the Northern Ireland system had a significant impact on the generation margin.
- To secure the system, additional conventional generation was brought online in Northern Ireland





# System Operations IE

Charlie McGee









# Market Interface

## Rosaleen Fanning

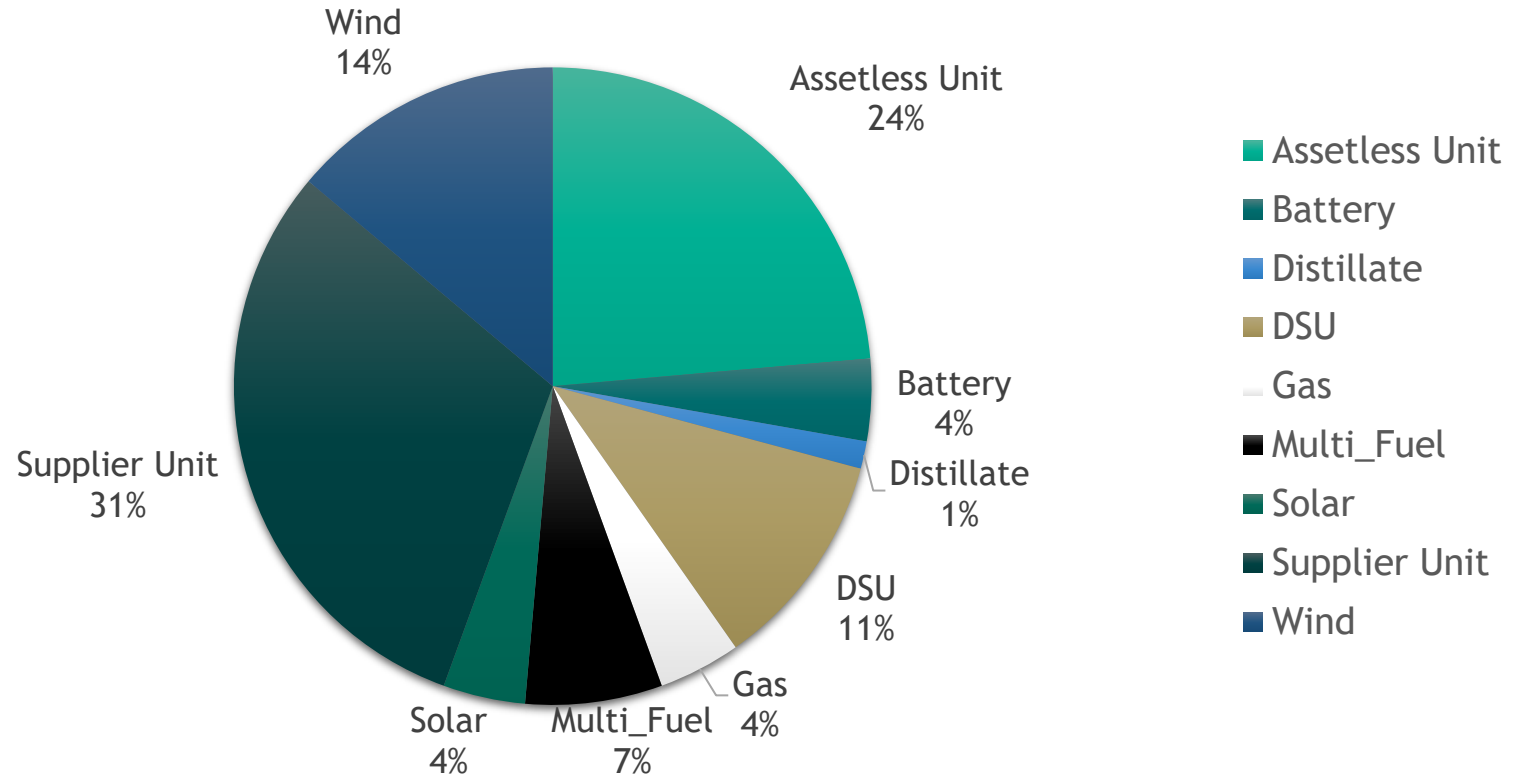




# Balancing Market Registration 2023

- 11 new Parties joined
- 72 Unit Registrations
- 19 Unit De-registrations
- 105 Unit Data Changes

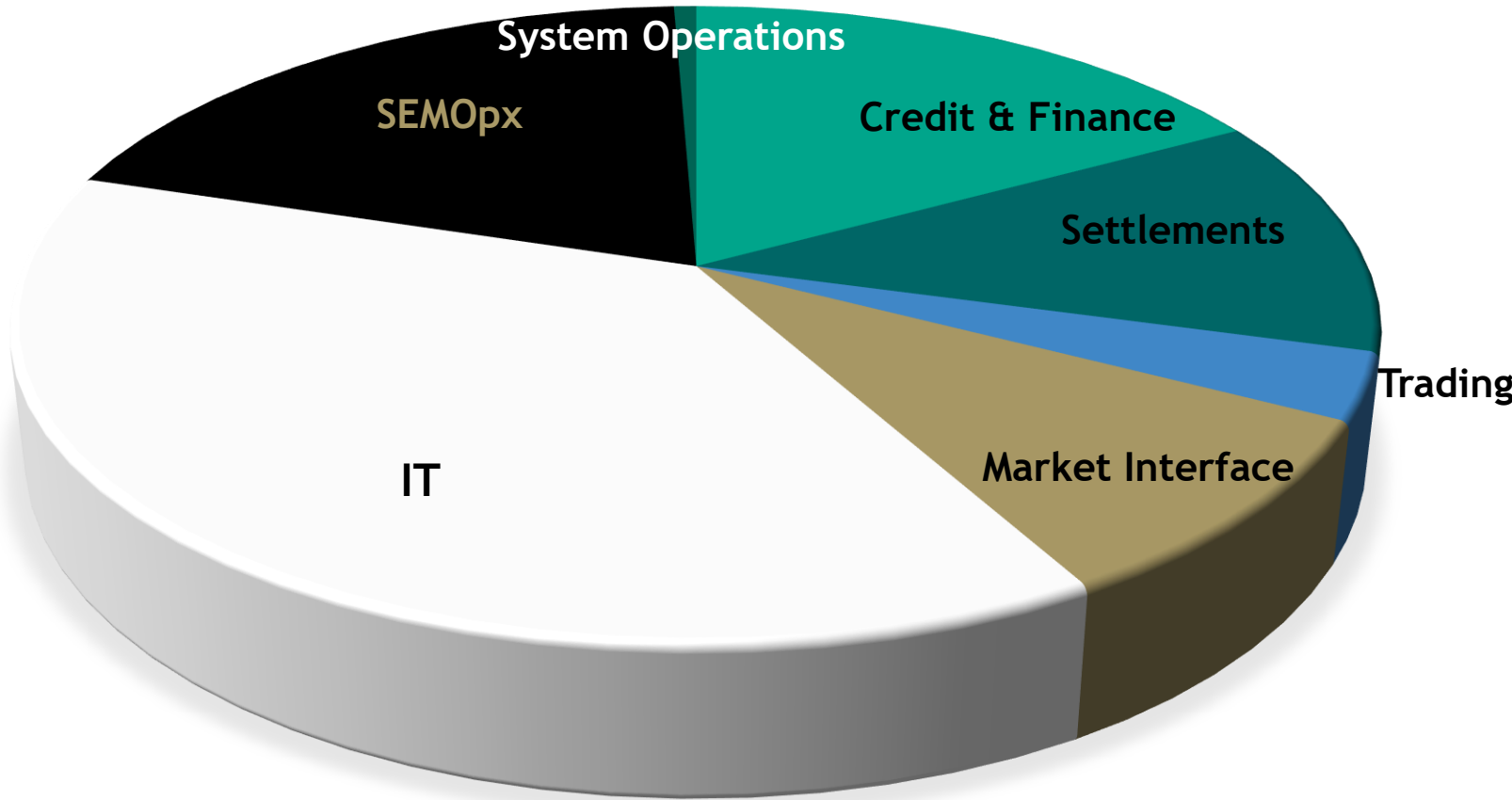
## 2023 Unit Registrations



# SEMO and SEMOpx General Queries:

From 06<sup>th</sup> of November 2023 - 22<sup>nd</sup> of January 2024

Received - 485  
Resolved - 475



# Formal Settlement Queries & Disputes:

From 06<sup>th</sup> of November '23 - 22<sup>nd</sup> of January '24

## Formal Settlement Queries

- Total Received: 33
- 6 are currently ongoing
- 27 have been completed (20 upheld and 7 not upheld)

## Disputes

- No Disputes were raised during this period.



# Dates for the Diary 2024

- The next Thursday Participant call @09.30am will take place on 01<sup>st</sup> of February.
- Invites have been issued for the next Scheduling and Dispatch Industry Workshop which will take place on Wednesday, the 07th of February via MS Teams only.
- The upcoming Market Operator User Group (MOUG) meetings are scheduled on the following dates:
  - 14th March
  - 16th May
  - 05th September
  - 07th November
  - 12th December





# *Thank you for your attendance*

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

SEMOpX Website: <http://www.semopx.com/>

SEMO & SEMOpX Contact:

- [info@sem-o.com](mailto:info@sem-o.com);
- [info@semopx.com](mailto:info@semopx.com)

Capacity Market Contact:

- [CapacityMarket@sem-o.com](mailto:CapacityMarket@sem-o.com)

