



Market Operator's Annual Performance Report

October 2021 – September 2022

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1 Introduction

On 1 October 2018 the revised Single Electricity Market (SEM) arrangements went live and 30 September 2022 marked the end of the fourth year of operation.

SONI Ltd. and EirGrid plc, operating as the Single Electricity Market Operator (SEMO) are required under their respective Market Operator (MO) Licenses to provide an annual report on Market Operator Performance to the Regulatory Authorities. The report is published in accordance with section B16.2 of the Trading and Settlement Code, Licence Condition 17(7) of the SONI MO licence and Licence Condition 10(8) of the EirGrid MO licence.

As part of the SEM Committee's decision on the SEMO Price Control (SEM-21-073), the RAs' stated that it is their preference "to streamline reporting". As part of this streamlining, the annual Market Operator Performance report has been updated to also include a summary of SEMO's KPI Performance. As a result, the annual SEMO KPI Outturn Report will no longer be issued as a separate report.

2 Executive Summary

This SEMO performance report covers the fourth year of operation of the revised SEM arrangements from 1 October 2021 to 30 September 2022.

During this period:

- 13 Parties joined the market and 60 units went effective in the market.
- There were 3 Market Management System (MMS) releases deployed¹.
- 6 Market Operator User Groups (MOUGs) took place; all were held via Microsoft (MS) Teams.
- 1,991 general queries were received, and 2,016 general queries were resolved², with 22 open as of September 2022.
- 160 Formal Settlement queries were raised; 123 have been upheld, 33 not upheld, 3 rejected and 1 withdrawn as of September 2022.
- 9 Disputes were raised, of which 8 were withdrawn and 1 was not upheld.
- 10 modifications to the Trading and Settlement Code were approved.
- Participant calls were held weekly to keep Market Participants informed on Market Operator updates, with the option of additional calls if needed.

The four main categories of performance metric covered are:

- Service Delivery
- Change Request Management
- General Market Information
- Manage Stakeholders

The Key Performance Indicators (KPI) incentives applicable in this period, as set out in SEM-21-073, are:

1. Invoicing
2. SEMO Resettlement Queries
3. Process Rate for Ad Hoc Resettlement to Clear Known Backlog
4. General Queries
5. System Availability
6. Storage Technology Facilitation

Quarters are defined according to the financial year as follows:

Q1 = 1 October to 31 December

Q2 = 1 January to 31 March

Q3 = 1 April to 30 June

Q4 = 1 July to 30 September

¹ Release H was deployed on 09 November 2021, Release H1 was deployed on 25 January 2022, and Release I was deployed on 17 May 2022.

² Resolved refers to queries resolved within this period, and includes queries raised before this time.

3 Service Delivery

3.1 Trading and Settlement Code Breaches

Breaches of the Trading and Settlement Code were noted in the following areas:

Trading and Settlement Code Breaches			
Area		Major ³	Minor ⁴
Data Providers		-	32
Market Participants	Clearing	62	-
	Credit Risk Management	75	-
Market Operator	Balancing Market	1	55
	Clearing	-	-
	Credit Risk Management	8	20
	Other	-	-
Total		146	107

Table 1 – Trading and Settlement Code Breaches

Further details of each of the Trading and Settlement Code breaches noted above are set out in Appendix A and Table 30 in Appendix B.

3.2 Balancing Market Settlements

3.2.1 Indicative and Initial Settlement Runs

The following series of tables and graphs represent the publications of Indicative and Initial Settlement runs. Every working day SEMO is obliged to issue Indicative and Initial settlement run statements.

Settlement Runs completed 01/10/2021 - 30/09/2022		
	Indicative	Initial
On Time	314	361
Same Day Late	16	2
> 1 Day Late	35	2
Total runs	365	365

Table 2 - Settlement Runs completed 01/10/2021 - 30/09/2022

³ Major Breach – includes the late publishing of settlement documents, default notices issued for non-payment or similar.

⁴ Minor Breach – occurs when deadlines not met, but without any financial implication to Participants. This includes late posting of settlement runs.

Indicative Runs Completed October 2021 to September 2022

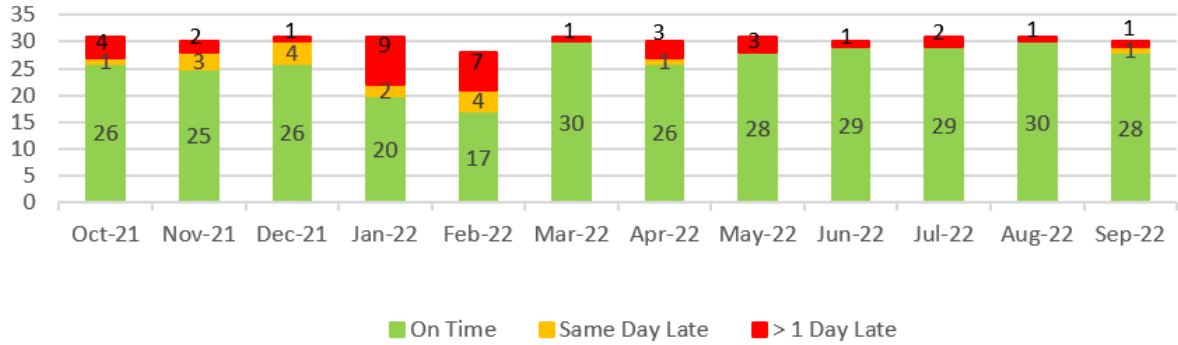


Figure 1 - Indicative Settlement Runs Completed

Further details on publication times can be found in Appendix B.

Initial Runs Completed October 2021 to September 2022

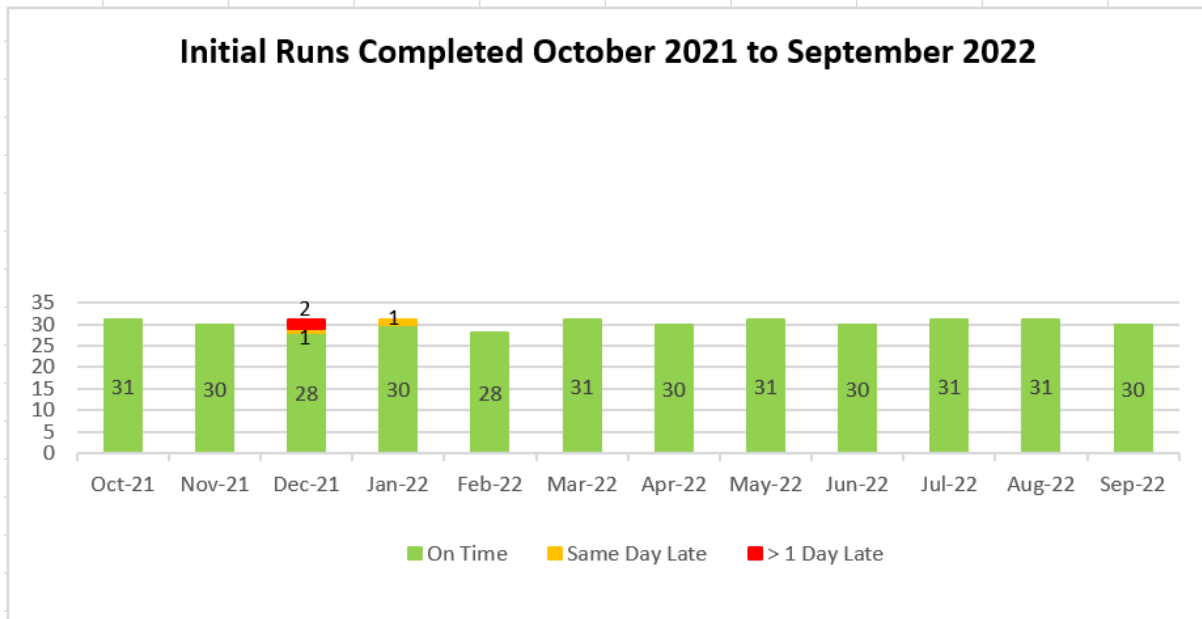


Figure 2 - Initial Settlement Runs Completed

Further details on publication times can be found in Appendix B.

3.2.2 Settlement Documents

The following table represents the publications of Initial Settlement Documents. SEMO is obliged to issue Initial Settlement Documents 5 working days after the last day of the billing period⁵.

Settlement Documents completed 01/10/2021 - 30/09/2022	
	No. of Weeks
On Time	52
Same Day Late	1
> 1 Day Late	0
Total runs	53

Table 3 - Settlement Documents completed 01/10/2021 - 30/09/2022

3.2.3 M+4 & M+13 Resettlement

M+4 resettlement was published as per Trading & Settlement Code weekly M+4 timelines.

M+13 resettlement was published as per Trading & Settlement Code weekly M+13 timelines.

3.2.4 Ad hoc Repricing and Ad-hoc Resettlement Runs

There were 12 calendar days that were assessed by SEMO against the 5% price materiality threshold, between October 2021 and September 2022. The periods assessed fell between August 2020 and January 2022. Approximately 47% of the assessed periods met the price materiality threshold; these impacted periods were repriced and the corresponding updated Imbalance Settlement Prices published to the market.

A scheduled "Ad hoc resettlement" programme commenced in February 2021 which began ad hoc resettlement from the start of the market. There were 73 billing weeks for Ad hoc re-settled in the Balancing Market over the course of the 2021-2022 year, with the scheduled ad hoc resettlement of consecutive weeks due to continue throughout the 2022-2023 business year targeting to achieve the 2021-2024 SEMO KPIs.

A second iteration of ad hoc resettlement for specific weeks from the start of the new I-SEM market is also required to address formal queries now resolved through subsequent release deployments and data corrections. This iteration is well progressed with 11 billing periods resettled during the course of the year and 2018 resettlement is now fully closed out.

3.2.5 Administration of Credit Cover

The SEM has been collateralised according to the Trading & Settlement Code provisions for the whole period from 1st October 2021 to 30th September 2022. At times, the collateralisation may be slightly less than the calculated requirement due to the time allowed by the Trading & Settlement Code for Participants to comply with a Credit Cover Increase Notice (CCIN). During 2021-2022, there were 62

⁵ Up to 2 Settlement Documents issued per week due to KIR #6148

CCIN's that were not fully honoured within the two days allowed as per Trading & Settlement Code, these were not resolved.

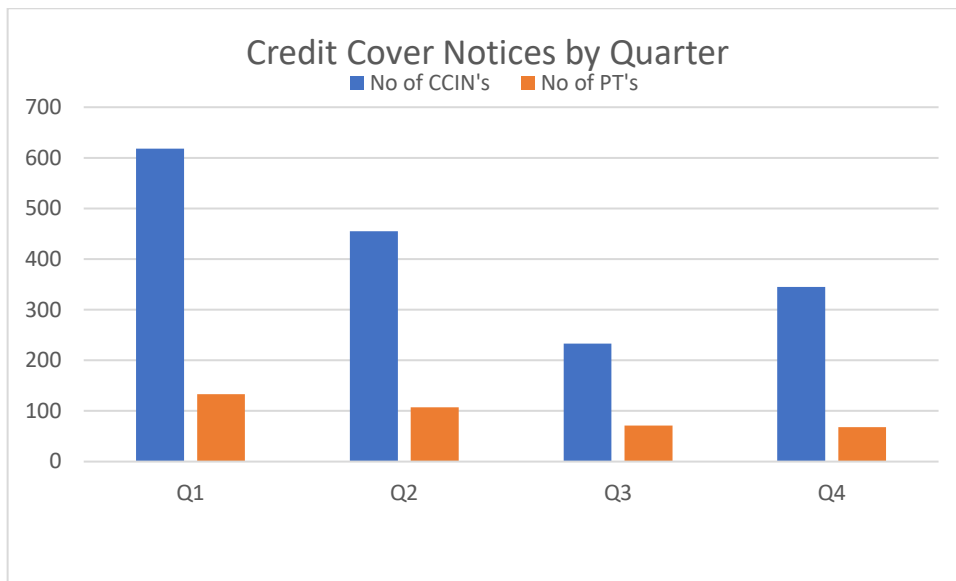


Figure 3 - Credit cover increase notices issued by Quarter

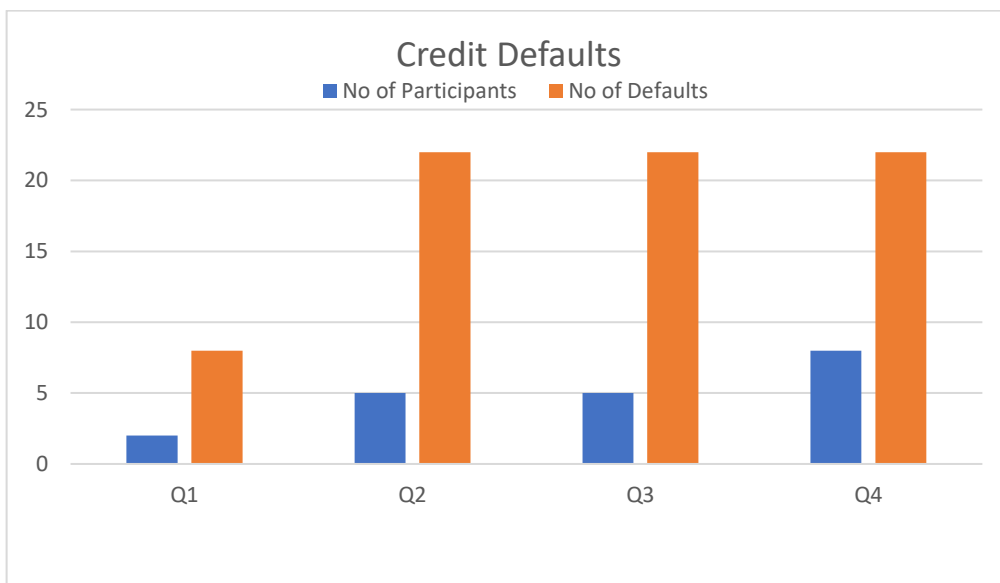


Figure 4 - Default notices issued by quarter

3.3 Financial Statistics

3.3.1 Cash Flow positions for Balancing Market, Capacity Market and Market Operator Charges Balancing Market

The TSOs are the Balancing Market Operator in the SEM while SEMO is responsible for the settlement for the Balancing Market. The Balancing Market reflects actions taken by the TSOs to keep the system balanced, for example, for differences between the market schedule and actual system demand. It determines the imbalance settlement price for settlement of these balancing actions. This includes any uninstructed deviations from a participant's notified ex-ante position. All data displayed in this section is the trade date data between 1 October 2021 to 30 September 2022.

As this data is extracted from the settlement documents which were published in the aforementioned time span and not the settlement dates contained within the time span, it is not possible to compare the initial runs to re-settlement runs. Consequently, the re-settlement figures below relate to periods which were re-settled over the course of the above date range. Additionally, the re-settlement figures are only the differences (i.e. what a participant was charged/paid in the specific settlement document) contained within the settlement document. It is also not possible to compare the data to SEMO's Regulatory accounts which are based on accounting cut off timelines rather than settlement documents published in the aforementioned time span.

- Positive values indicate Payments were greater than Charges
- Negative values indicate Charges were greater than Payments
- All figures are in Euro
- All charge components which were €0 for the entire year have been excluded.

Balancing Market Cash Flow Position		
Component	Component Name	€ Payment/Charge
CDISCOUNT	Discount Payment	€256,258,278
CPREMIUM	Premium Payment	€191,691,276
CFC	Fixed Cost Payment or Charge	€98,552,948
CABBPO	Bid Price Only Accepted Bid Payment or Charge	€726,274
CDIFFPIMB	High Imbalance Price Difference Charge	€83,050
CDIFFPID	Intraday Difference Charge	€0
CSOCDIFFP	Difference Payment Socialisation Charge	€0
CCA	Currency Adjustment Charge	-€2,595
CTEST	Testing Charge	-€44,345
CEADSUIMB	Demand Side Unit Energy Adjustment Payment or Charge	-€77,830
CDIFFCWD	Within-day Difference Charge	-€292,302
CDIFFCNP	Non-Performing Difference Charge	-€384,291
CAOOPO	Offer Price Only Accepted Offer Payment or Charge	-€6,228,162
CCURL	Curtailment Payment or Charge	-€7,707,001
CREV	Residual Error Volume Charge	-€12,553,393
CUNIMB	Uninstructed Imbalance Charge	-€13,348,072
CIMB	Imbalance Payment or Charge	-€149,645,249
CIMP	Imperfections Charge	-€336,102,657
Total		€20,925,929

Table 4 - Balancing Market Cash Flow Position

Capacity Market

The TSOs are the Capacity Remuneration Mechanism (CRM) Delivery body in the SEM while SEMO is responsible for the settlement for the Capacity Market. The Capacity Market is designed to help ensure that the generation capacity in Ireland and Northern Ireland (including Storage, Demand Side Units and Interconnector capacity) is sufficient to meet demand and that the regulatory approved generation adequacy standard is satisfied.

Capacity Market Cash Flow Position		
Component	Component Name	€ Payment/Charge
CCP	Capacity Payment	€ 355,636,908
CCC	Capacity Charge	-€ 376,430,905
	Total	-€ 20,793,996

Table 5 - Capacity Market Cash Flow Position

Market Operator Charges

Market Operator charges are used to recover the costs to SEMO of administering the market as provided for by the SEM Committee (SEMC) under the relevant Price Control.

Market Operator Charges		
Component	Component Name	€ Payment/Charge
CMOAV	Fixed Market Operator Charge Supplier Units	-€ 25,180
CMOAU	Fixed Market Operator Charge Generator Units	-€ 1,049,211
CVMO	Variable Market Operator Charge	-€ 19,926,535
	Total	-€ 21,000,927

Table 6 - Market Operator Charges

3.3.2 Financial Changes with re-settlement runs

There were 53 billing weeks for M+4, 53 billing weeks for M+13 and 73 billing weeks for Ad hoc re-settled in the Balancing Market over the course of the 2021-2022 financial year. For CRM and MO, there was 13 billing periods (months) re-settled for M+4, 12 billing periods for M+13 and 14 billing periods for Ad hoc. Within all of these re-settlements, there were changes to numerous charges and payments as set out below.

These figures represent the differences between the previous settlement run and the re-settlement run. For example, if a unit was charged €100 in CIMB in Initial settlement and this was re-calculated to be €110 in M+4, this would result in a delta of €10 which would be captured in the below tables. Tables 7, 8 and 9 show the overall payments and charges along with the break down per respective re-settlement run for all re-settlements.

All data displayed in this section is extracted from all settlement documents published between 1 October 2021 to 30 September 2022. Trade date range for each run:

- M+4: 30/05/2021 – 04/06/2022
- M+13: 30/08/2020 – 04/09/2021
- Ad hoc: 01/10/2018 – 15/12/2018, 06/01/2019 – 12/01/2019, 10/02/2019 – 16/02/2019, 24/02/2019 – 02/03/2019, 10/03/2019 – 23/03/2019, 07/04/2019 – 18/04/2020

Balancing Market Resettlement				
Component	M4	M13	AH	Grand Total
CIMB	49,818,746	7,887,129	-1,144,834	56,561,041
CDISCOUNT	3,252,712	600,009	2,694,578	6,547,299
CIMP	2,308,929	730,721	62,627	3,102,277
CPREMIUM	493,745	616,788	1,419,458	2,529,992
CUNIMB	1,260,616	483,414	90,638	1,834,668
CREV	296,122	112,870	10,280	419,272
CDIFFPIMB	137,925	8,406	0	146,331
CABBPO	-4,475	3,661	42,223	41,409
CDIFFCNP	230	32,885	4,046	37,161
CDIFFCWD	26,545	4,108	2,462	33,115
CSOCDIFFP	303	2,129	925	3,357
CCA	1,119	1,211	111	2,441
CTEST	0	0	24	24
CSHORTDIFFP	0	0	0	0
CDIFFPDA	0	0	0	0
CREIMDIFFP	0	0	0	0
CEADSUIDT	0	0		0
CDIFFCDA	0	0	0	0
CEADSUDA	0	0		0
CDIFFPID	0	-17,218	0	-17,218
CEADSUIMB	-72,970	-89,930		-162,899
CAOPO	7,673	26,629	-211,351	-177,049
CCURL	-3,385	-11,562	-187,754	-202,702
CFC	331,969	-1,585,642	-825,351	-2,079,024
Grand Total	57,855,804	8,805,608	1,958,081	68,619,493

Table 7 - Balancing Market Resettlement

Capacity Market Resettlement				
Component	M4	M13	AH	Grand Total
CCC	2,545,626	1,040,960	66,279	3,652,865
CCP	-112,694	137,083	23,000	47,388
Grand Total	2,432,932	1,178,042	89,279	3,700,254

Table 8 - Capacity Market Resettlement

Market Operator Charges Resettlement				
Component	M4	M13	AH	Grand Total
CVMO	122,033	35,270	4,283	161,586
Grand Total	122,033	35,270	4,283	161,586

Table 9 - Market Operator Charges Resettlement

3.4 Imbalance Price

3.4.1 Imbalance Price

There are two types of Imbalance Price referred to in this section; the Imbalance Price which is the price associated with a 5 Minute Imbalance Pricing Period and, secondly, an Imbalance Settlement Price which is calculated as the average of six “5-Minute Imbalance Prices” for a corresponding 30-minute Imbalance Settlement Period.

Figure 4 shows the Imbalance Settlement Prices for the entire year, from October 2021 to September 2022. All system calculated Imbalance Settlement Prices are published on this graph; both the Market Back up Price and the 30-minute average of the Imbalance Price. The average Imbalance Settlement Price during this annual period was €225.50. The maximum Imbalance Settlement Price was €632.18, and the minimum was €189.77.

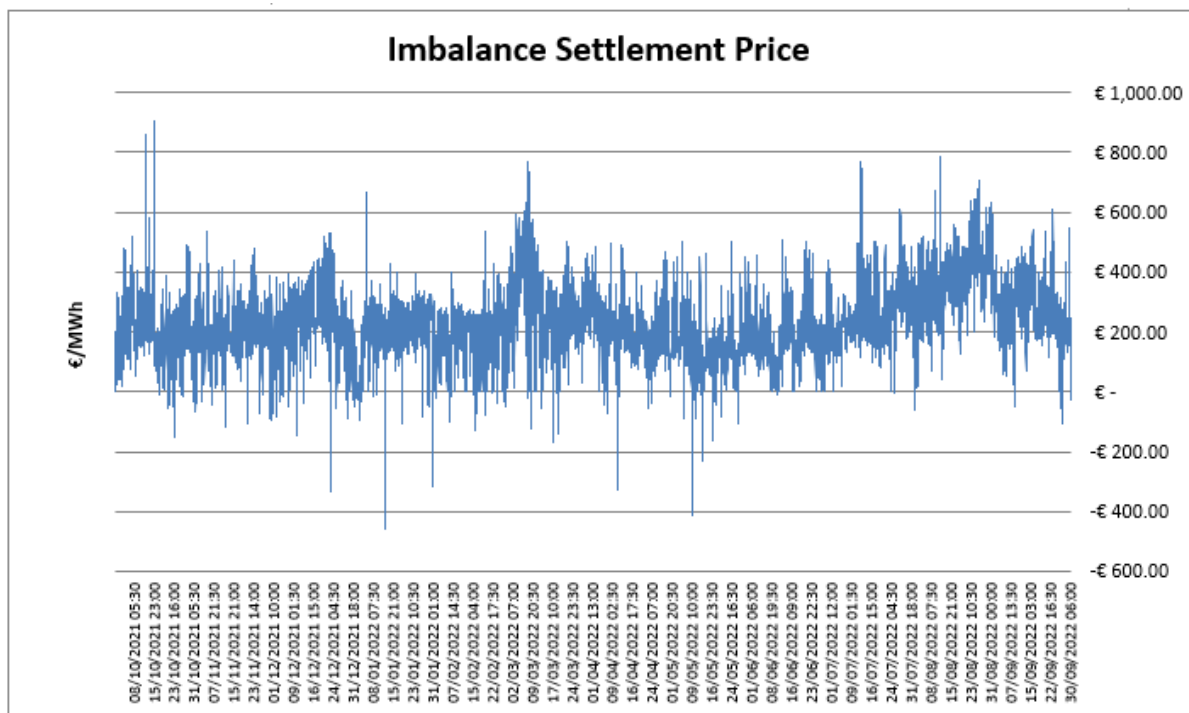


Figure 4 – Imbalance Settlement Price

Figure 5 shows the Quantity Weighted Ex-Ante Price as a comparator to the Imbalance Settlement Price. The Quantity Weighted Ex-Ante Price is the value used by SEMO as the Market Back Up Price, should the Market Operator not be able to calculate an Imbalance Settlement Price; based on the average of the six Imbalance Prices for a given Imbalance Settlement Period.

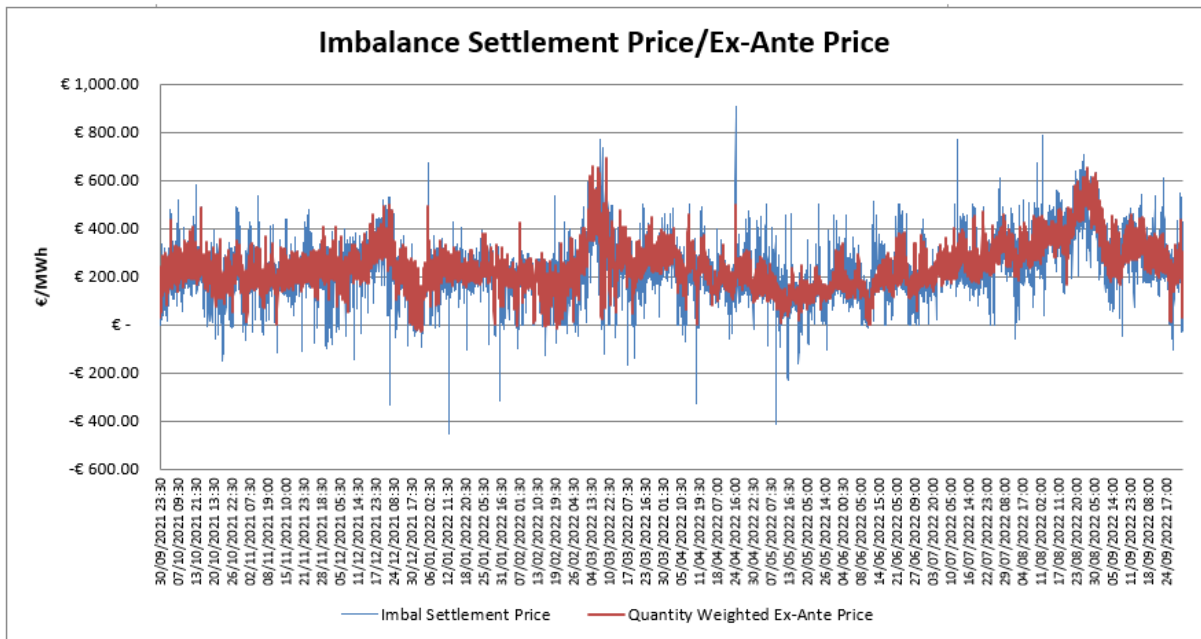


Figure 5 – Imbalance Settlement Price & Quantity Weighted Ex-Ante Price Comparison

Figure 6 highlights the monthly Highest, Lowest and Average half-hour Imbalance Prices for the period October 2021 to September 2022.

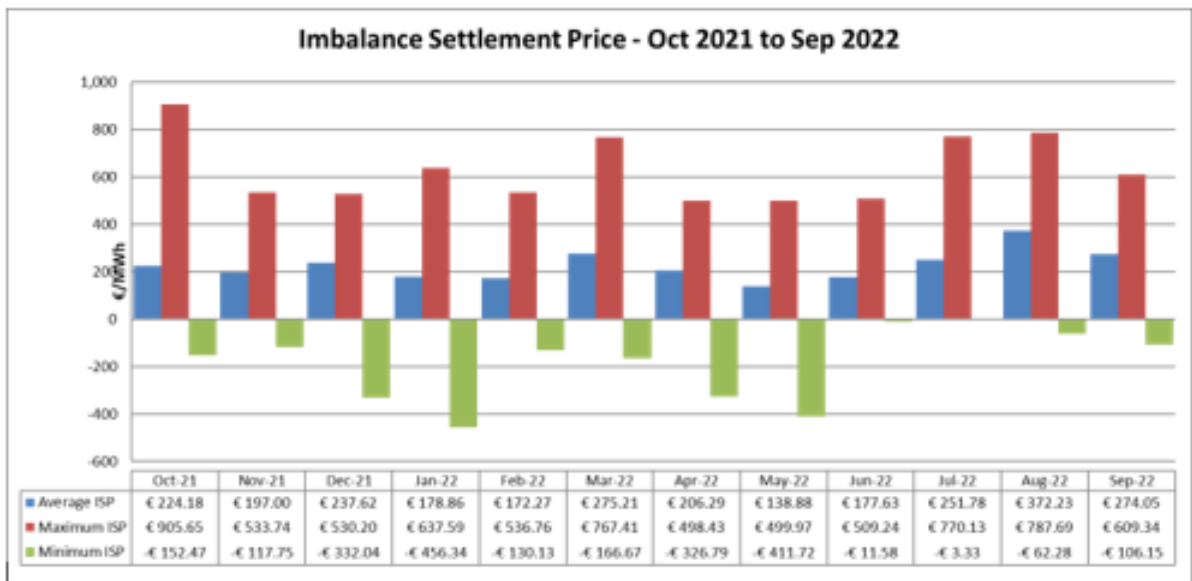


Figure 6 – Highest, Lowest and Average Imbalance Prices

3.4.2 Exchange Rate

The SEM is a dual currency market. Units based in Northern Ireland submit their Offer Data in GBP. All GBP Offer Data is converted to EUR as part of the Balancing Market price setting process. The GBP to EUR exchange rate is captured below in **Figure 7**.

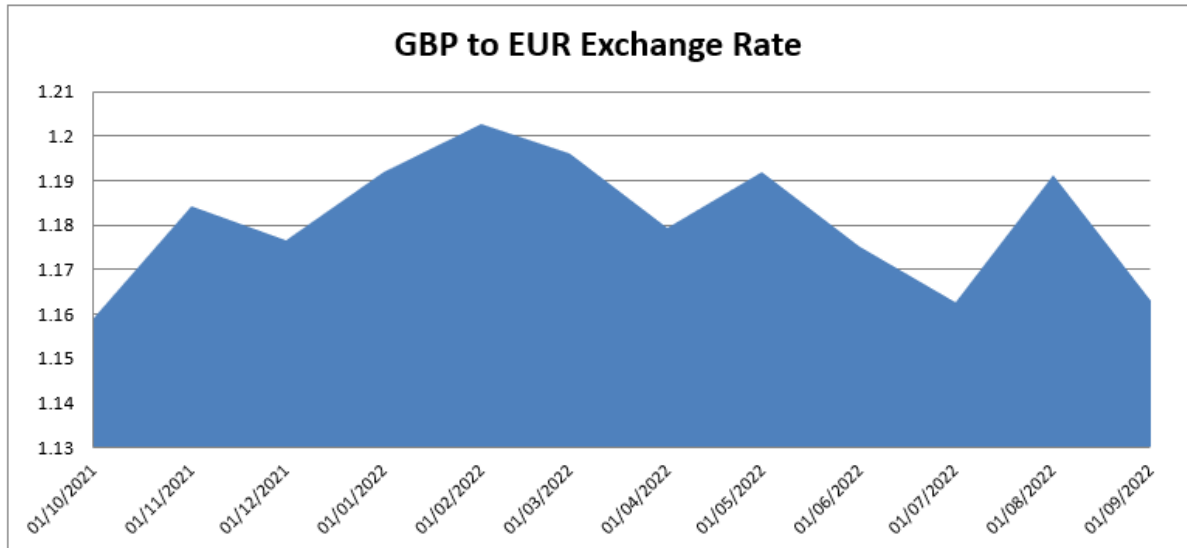


Figure 7 - GBP to EUR exchange rate

3.4.3 Imbalance Price Generation and Back Up Price

Figure 8 below highlights how many instances in which the Market Back Up Price was published for an Imbalance Settlement Period. This figure also includes the Ex-Ante Backup Price which is used as a contingency in the event of failure of the automatic Market Back Up Price.

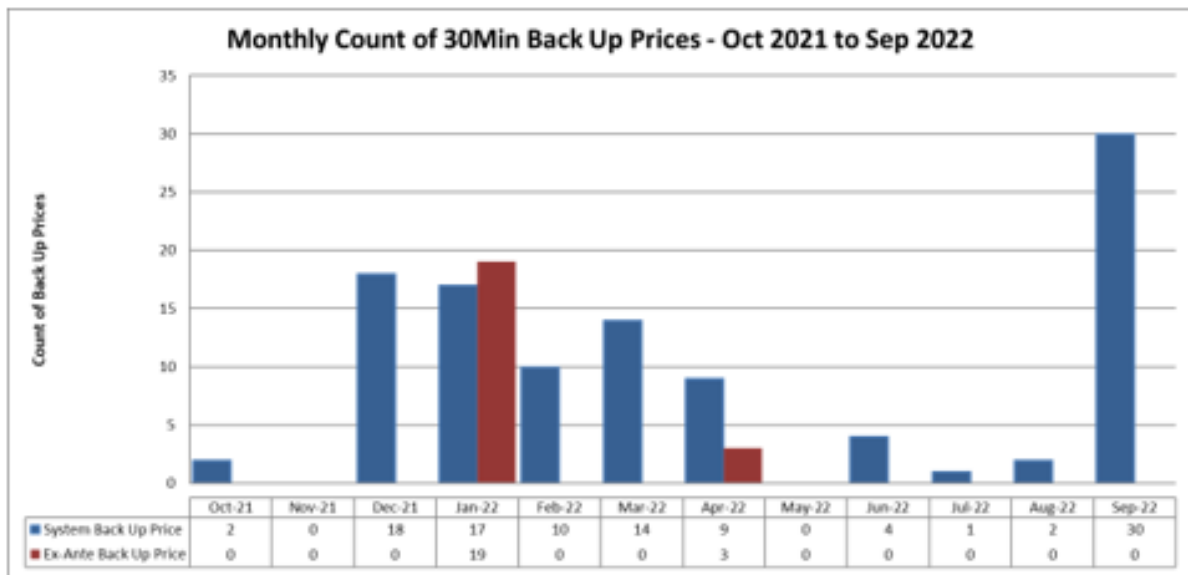


Figure 8 - Number of 30 Minute Backup Prices used October 2021 to September 2022

During the year, there was a total of 129 Market Back Up Prices applied (both Ex-Ante and System Back Up Prices), of which 87 applied were due to workflow/system performance issues in which the 5 min imbalance period price did not calculate. 42 Market Back Up Prices were applied due to planned and emergency outages.

Figure 9 highlights how many 5-minute Imbalance Prices were missed in each calendar month. If an Imbalance Price is missed, the system will apply the corresponding Market Back Up Price to that Imbalance Pricing Period.

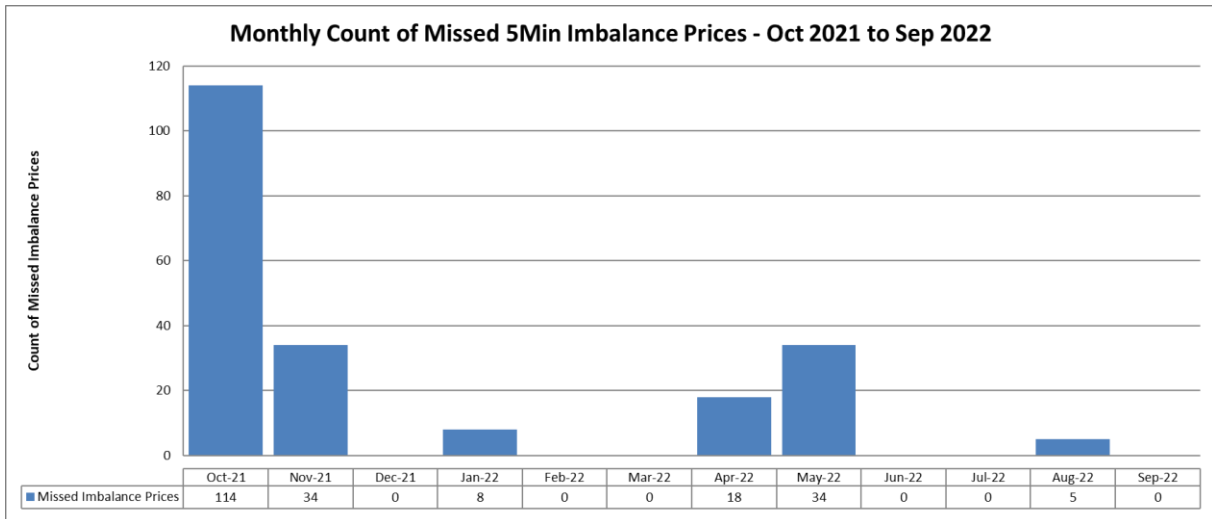


Figure 9 – Summary of 5 minute Missed Imbalance Prices used October 2021 to September 2022

Figure 10 captures the instance where an Imbalance Price was replaced with the Market Back Up Price; which is used as the result of planned or unplanned outages to the Imbalance Pricing calculation.

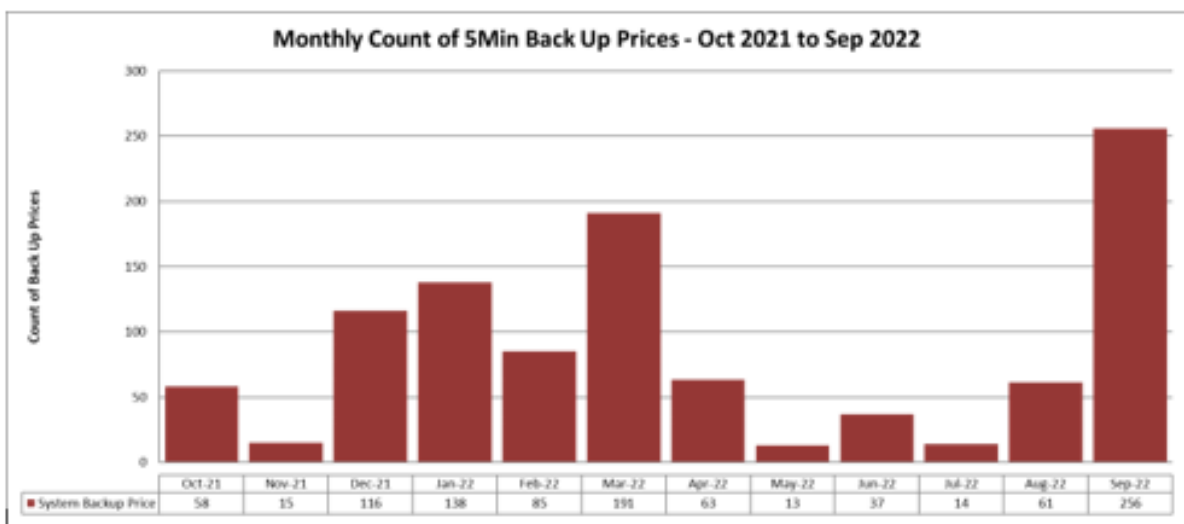


Figure 10 – Number of 5 minute Back Up Prices used October 2021 to September 2022

4 Central Systems

4.1.1 System Availability

The table below gives the system availability value for the period of October 2021 to September 2022 as well as the breakdown per system.

System / Application	Annual Availability %
Settlements (CSB)	100%
MI	100%
MA	99.89%
Reporting (reports publication in the MPI)	100%
Website (availability)	100%
Average System Availability	99.98%

Table 10 - Annual System Availability

4.1.2 Limited Communication Failure (LCF), General Communication Failure (GCF) and General System Failure (GSF)

- There were no Limited Communication Failure (LCF) requests from October 2021 to September 2022.
- There was no General Communication Failure (GCF) from October 2021 to September 2022.
- There was no General System Failure (GSF) from October 2021 to September 2022.

4.1.3 System releases

Please see below the Market System Releases deployed to the Production environment in the period 1 October 2021 to 30 September 2022.

- Release H – Deployed to production on the 9th of November 2021
- Release H.1 - Deployed to production on the 25th of January 2022
- Release I – Deployed to production on 17th of May 2022.

5 Modifications

5.1.1 Balancing Market – Trading & Settlement Code Modification Management

The tables that follow give an overview of the activity that has taken place between 1 October 2021 and 30 September 2022. Table 11 shows the dates and number of Modifications Committee Meetings, Working Groups and Industry Call that took place over this period.

Meeting	Date	Location
107	21 October 2021	Conference Call
108	2 December 2021	Conference Call
109	10 February 2022	Conference Call
110	7 April 2022	Conference Call
111	16 June 2022	Conference Call
112	6 September 2022	Conference Call
112B	16 September 2022	Conference Call
Industry Call – Mod_14_21 & Mod_15_21	9 November 2021	Conference Call
Industry Call – Mod_02_22	11 March 2022	MS Teams
Industry Call – Mod_07_22	18 July 2022	MS Teams
Industry Call – Mod_09_22	23 August 2022	MS Teams

Table 11 - Balancing Market: Trading & Settlement Code Modifications Committee Meetings

At the Modifications Committee Meetings, decisions are made regarding progressing various Modification Proposals. Table 12 gives an outline of the amount of activity that has taken place over this annual period.

Modification Proposal Activity	Total
Raised	17
Alternative Versions raised	4
Withdrawn	2
Deferred	2
Extension Granted	2
Recommended for Approval	13
Recommended for Rejection	0
Further Work Required	0
Approved	10
Rejected	0
RA Direction	0

Table 12 - Modification Proposal Activity

5.1.2 Publication of the Trading & Settlement Code

Version 24.0 of the Trading & Settlement Code was published on the 20th October 2021. Ten Modification Proposals were included in this version, which are noted in the version history of the Trading & Settlement Code Part A.

Version 25.0 of the Trading & Settlement Code was published on the 10th December 2021. Seven Modification Proposals were included in this version, which are noted in the version history of the Trading & Settlement Code Part A.

Version 26.0 of the Trading & Settlement Code was published on the 1st June 2022. Seven Modification Proposals were included in this version, which are noted in the version history of the Trading & Settlement Code Part A.

5.1.3 2022 - Modifications Committee Elections

Modifications Committee Annual Elections commenced in August with a call for nominations for five expiring positions on the Modifications Committee. The following nominees were automatically elected to the Modifications Committee due to the minimum number of nominees being made:

Expired Member	New Member	Position
Bryan Hennessy	Bryan Hennessy	Supplier
Philip Carson	Philip Carson	Supplier
Paraic Higgins	Paraic Higgins	Generator
Stacy Feldmann	Stacy Feldmann	Generator
Robert McCarthy	Robert McCarthy	DSU

The election for Chair and Vice-Chair was scheduled following this with Stacy Feldmann appointed as Chair and Andrew Burke appointed as Vice Chair.

5.1.4 Balancing Market - Modifications Process Development

Modification Proposals were considered at bi-monthly Modifications Committee Meetings or extraordinary meetings, Working Groups and industry calls as required, mostly by conference call (see Table 11). Full details of all modifications progressed during the year are available in the [Balancing Market Modifications section](#) of the SEMO website.

The Trading and Settlement Code Modifications area has continued to process significant levels of activity since going live in October 2018.

The trend continues for proposals to target enhancements, refinements or longer-term projects. Because of the greater impact, these types of proposals tend to have a longer lifespan over a larger number of industry meetings requiring a higher level of analysis and impact assessments. This is confirmed by the number of additional Extraordinary meetings, Working Groups and Industry Calls that have been necessary to progress issues.

The main themes that characterised the past year where:

- Reducing the burdening of Credit Cover by:
 - o introducing Insurance Undertakings as Credit providers using Demand Guarantees and
 - o Consulting on the revision of some Credit Cover parameters and timelines;
- Reducing the impact of extreme volatility of fuel prices through several Modifications such as:
 - o Indexation of Capacity Payments, changes in calculation of Strike Price, treatment of units providing Replacement Reserve;
- A Modification was raised from the RAs and approved to allow the recovery of monies following investigations from the Market Monitor Unit;
- And several Modifications were raised from SEMO to close off issues or defects relating to go-live.

Here is the list of Modifications over the past year:

Recommended for Approval

- Mod_14_21 Extension of System Service Flag to include units providing Replacement Reserve in line with the detailed design
- Mod_17_21 Second Housekeeping 2021
- Mod_18_21 Temporary derogation from SEMO charges related to Mod_02_21
- Mod_19_21 Modification re publication of information by SEMO
- Mod_20_21 Undo Instructions - Scenario 2
- Mod_21_21 Undo Instructions - Scenario 4
- Mod_01_22 Balance Surety Demand Guarantee
- Mod_02_22 Cost Recovery when Under Test
- Mod_03_22 Collection of Monies
- Mod_04_22 Alternatives to LIBOR
- Mod_05_22 SEMO Performance Reporting Frequency
- Mod_11_22 Permitting the use of email to communicate credit cover changes on Demand Guarantees
- Mod_12_22 Extension of System Service Flag to cover Replacement Reserve Resources

Approved

- Mod_13_19 Payment for Energy Consumption in SEM for non-energy Services Dispatch
- Mod_01_20 PMEA No Energy Action Same Direction as NIV
- Mod_17_21 Second Housekeeping 2021
- Mod_18_21 Temporary derogation from SEMO charges related to Mod_02_21
- Mod_19_21 Modification re publication of information by SEMO
- Mod_20_21 Undo Instructions - Scenario 2
- Mod_01_22 Balance Surety Demand Guarantee
- Mod_03_22 Collection of Monies
- Mod_04_22 Alternatives to LIBOR
- Mod_05_22 SEMO Performance Reporting Frequency

Withdrawn

- Mod_07_21 Dispatchable Demand Generator Unit
- Mod_15_21 Alter CDIFF Section F.18.7.2

6 General Market Information

6.1 Query Management

The statistics presented in Table 13 - Helpdesk Query Statistics cover the period of 1 October 2021 to 30 September 2022.

Received	Resolved	Open
1991	2016	22

Table 13 - Helpdesk Query Statistics

Definitions

- Received refers to the queries raised between 01 October 2021 and 30 September 2022.
- Resolved refers to queries resolved within this period, and includes queries raised before this time.
- Open refers to queries raised, but not resolved as of 30 September 2022.

6.1.1 Settlement Queries

There were 160 Formal Settlement queries raised from October 2021 - September 2022; 123 have been upheld, 33 not upheld, 3 rejected and 1 withdrawn as of September 2022.

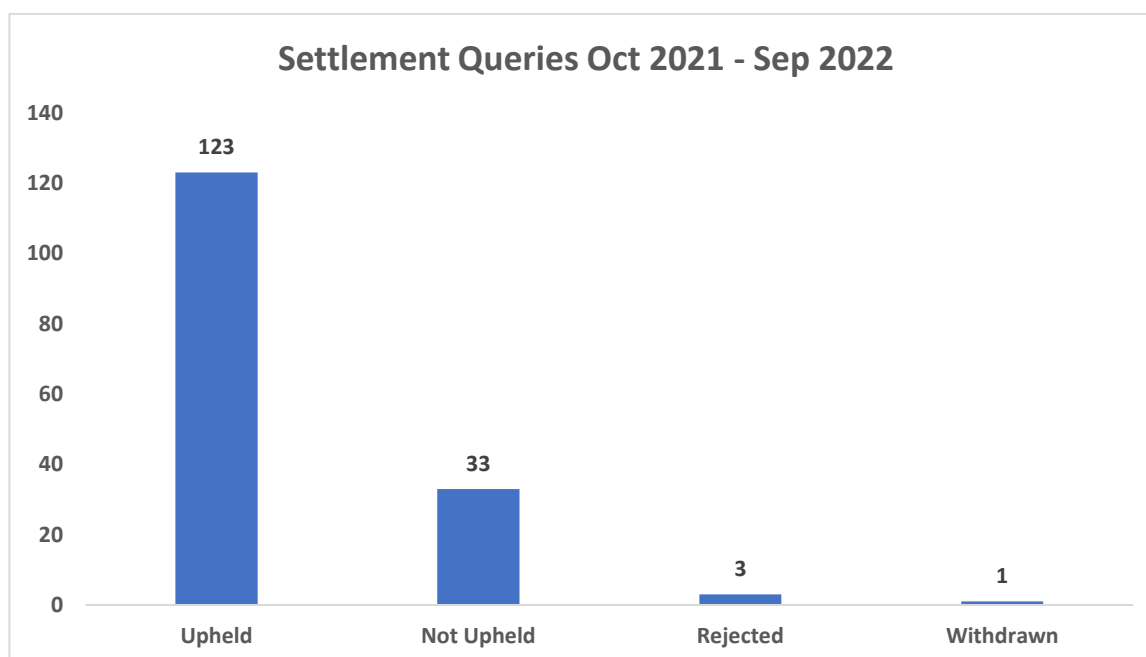


Figure 11 – Settlement Queries 01/10/2021 – 30/09/2022

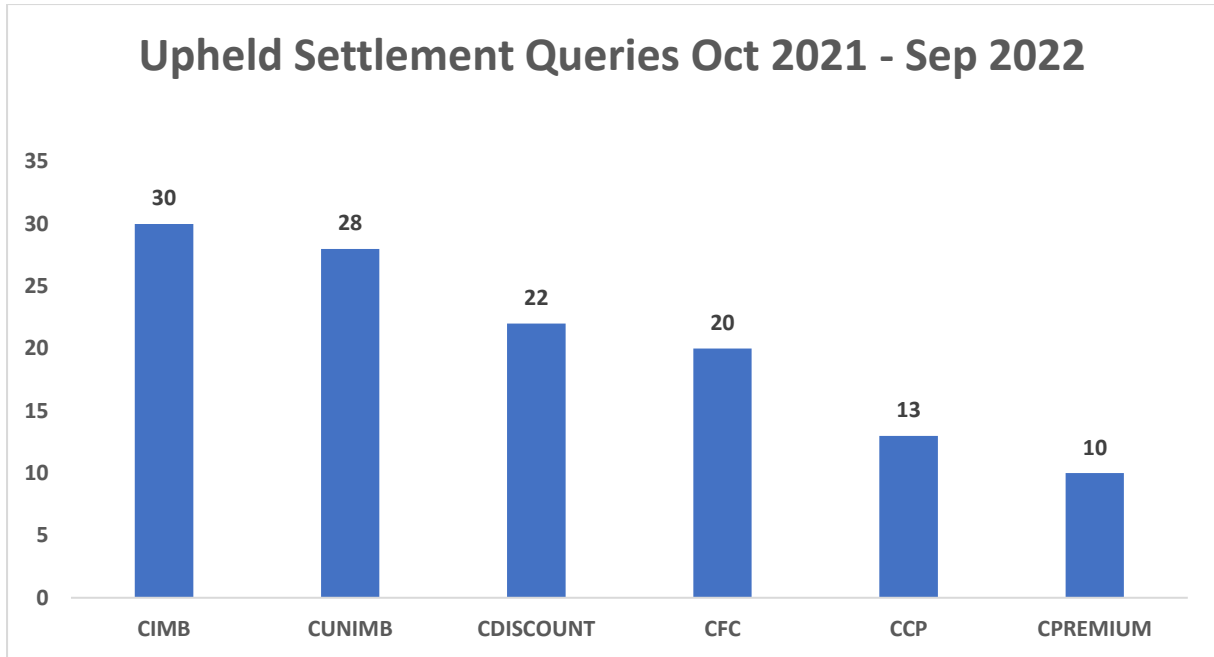


Figure 12 – Upheld Settlement Queries by Query Type

Further Details on Settlement queries that have been upheld can be found in Appendix C.

Unresolved Queries

No queries raised during October 2021 - September 2022 were unresolved.

6.1.2 Disputes

There were nine Disputes raised between 1 October 2021 to 30 September 2022. Please see below table which represents the volume of Disputes raised per a Dispute Category.

Dispute Category	Number of Disputes	Disputes Upheld	Disputes not Upheld	Disputes Withdrawn	Disputes Ongoing
General Dispute	6			6	
Pricing Dispute	1			1	
Settlement Dispute	2		1	1	

Table 14 - Disputes by Category

6.2 Joining and Terminating Parties and Units

Between 1 October 2021 to 30 September 2022; 13 Parties joined the Market and 60 units went effective in the Market. Please see below for further details.

The below Parties joined the Market between 1 October 2021 to 30 September 2022:

Party Name	Party ID	Effective date
Calvi Energy Services Limited	PY_034109	01/12/2021
Scottish Power Renewables (UK) Limited	PY_034089	02/02/2022
Clogheravaddy Wind Farm Limited	PY_034113	02/02/2022
Gorey Storage Limited	PY_034106	02/03/2022
Killala Community Wind Farm DAC	PY_034108	30/03/2022
Kria Energy ehf	PY_034128	11/05/2022
Kells BES Ltd	PY_034107	15/06/2022
RISQ Energy Ltd	PY_034132	06/07/2022
Copenhagen Energy Trading A/S	PY_034133	06/07/2022
Norlys Energy Trading A/S	PY_034136	27/07/2022
Cloncreen Wind Farm Supply DAC	PY_034137	10/08/2022
Xenon Capital Markets Ltd	PY_034138	24/08/2022
FluxSmart Ltd	PY_034139	14/09/2022

Table 15 - Parties who joined the market October 2021 – September 2022

The below units went effective in the Market between 01 October 2021 and 30 September 2022:

Party Name	Party ID	Participant ID	Unit ID	Effective date
Erova Energy LTD	PY_000137	PT_400163	AU_400134	06/10/2021
ElectroRoute Energy Supply Limited	PY_000171	PT_400200	GU_404570	06/10/2021
ElectroRoute Energy Supply Limited	PY_000171	PT_400200	GU_404580	06/10/2021
Bord Gais Energy Limited	PY_000027	PT_400028	SU_400361	17/11/2021
Bord Gais Energy Limited	PY_000027	PT_400028	AU_400136	17/11/2021
Energy Trading Ireland Limited	PY_000113	PT_500067	DSU_501590	17/11/2021
Energy Trading Ireland Limited	PY_000113	PT_500067	SU_500091	17/11/2021
Calvi Energy Services Limited	PY_034109	PT_402587	AU_400135	01/12/2021
ESB	PY_000030	PT_400030	GU_403560	08/12/2021
ElectroRoute Energy Supply Limited	PY_000171	PT_502534	GU_504030	05/01/2022

ElectroRoute Energy Supply Limited	PY_000171	PT_502534	GU_504040	05/01/2022
Scottish Power Renewables (UK) Limited	PY_034089	PT_402573	GU_404260	02/02/2022
Scottish Power Renewables (UK) Limited	PY_034089	PT_402573	GU_404270	02/02/2022
Clogheravaddy Wind Farm Limited	PY_034113	PT_402591	GU_404630	02/02/2022
ESB	PY_000030	PT_400030	GU_403630	02/03/2022
Gorey Storage Limited	PY_034106	PT_402585	GU_404540	02/03/2022
Statkraft Markets GmbH	PY_034046	PT_402540	GU_404900	23/03/2022
Flogas Enterprise Solutions Limited	PY_000054	PT_400051	SU_400365	30/03/2022
EnerNOC Ireland Limited	PY_000088	PT_400090	DSU_403720	30/03/2022
EnerNOC Ireland Limited	PY_000088	PT_400090	SU_400362	30/03/2022
Killala Community Windfarm DAC	PY_034108	PT_402586	GU_404550	30/03/2022
Convex Energy GmbH	PY_034067	PT_402558	AU_400139	11/05/2022
SSE Airtricity Limited	PY_000021	PT_400021	GU_404990	11/05/2022
Kria Energy ehf	PY_034128	PT_402606	AU_400137	11/05/2022
Energia Customer Solutions NI Limited	PY_000042	PT_500030	GU_503350	11/05/2022
ESB	PY_000030	PT_500024	GU_504090	11/05/2022
Bord Gais Energy Limited	PY_000027	PT_400028	GU_405100	25/05/2022
SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_504060	25/05/2022
SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_504070	25/05/2022
SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_504050	25/05/2022
In Commodities A/S	PY_000192	PT_400236	AU_400138	01/06/2022
KELLS BES Ltd	PY_034107	PT_502532	GU_503980	15/06/2022
Statkraft Markets GmbH	PY_034046	PT_402540	GU_405070	06/07/2022
RISQ Energy Ltd	PY_034132	PT_502537	AU_500125	06/07/2022
Copenhagen Energy Trading A/S	PY_034133	PT_502538	AU_500126	06/07/2022
Convex Energy GmbH	PY_034067	PT_402558	AU_400140	13/07/2022
Statkraft Markets GmbH	PY_034046	PT_402540	GU_405120	20/07/2022
Statkraft Markets GmbH	PY_034046	PT_402540	GU_405110	27/07/2022
Amazon Energy Eoraip Limited	PY_034094	PT_402577	GU_404930	27/07/2022
Norlys Energy Trading A/S	PY_034136	PT_502541	AU_500128	27/07/2022
Cloncreen Wind Farm Supply DAC	PY_034137	PT_402608	GU_405140	10/08/2022

Cloncreen Wind Farm Supply DAC	PY_034137	PT_402608	SU_400367	10/08/2022
Xenon Capital Markets Ltd	PY_034138	PT_502542	AU_500129	24/08/2022
Bord Gais Energy Limited	PY_000027	PT_400028	GU_405130	31/08/2022
Bord Gais Energy Limited	PY_000027	PT_400028	SU_400368	07/09/2022
Edenderry Supply Company Limited	PY_000147	PT_400169	SU_400369	07/09/2022
ESB	PY_000030	PT_400030	GU_405150	14/09/2022
FluxSmart Ltd	PY_034139	PT_402609	AU_400141	14/09/2022
Endeco - Wirelite Sensors Limited	PY_000126	PT_400133	DSU_403590	21/09/2022
Endeco - Wirelite Sensors Limited	PY_000126	PT_400133	DSU_403690	21/09/2022
Endeco - Wirelite Sensors Limited	PY_000126	PT_500099	DSU_503650	21/09/2022
Endeco - Wirelite Sensors Limited	PY_000126	PT_400133	SU_400372	21/09/2022
Endeco - Wirelite Sensors Limited	PY_000126	PT_400133	SU_400373	21/09/2022
Endeco - Wirelite Sensors Limited	PY_000126	PT_500099	SU_500313	21/09/2022
ESB	PY_000030	PT_400030	GU_405170	28/09/2022
ESB	PY_000030	PT_400030	SU_400371	28/09/2022
Electricity Exchange Limited	PY_000114	PT_400116	DSU_403630	28/09/2022
Electricity Exchange Limited	PY_000114	PT_400116	SU_400360	28/09/2022
Electricity Exchange Limited	PY_000114	PT_400116	DSU_403640	28/09/2022
Electricity Exchange Limited	PY_000114	PT_400116	SU_400366	28/09/2022

Table 16 - Registrations October 2021- September 2022

The below units de-registered from the Market between 1 October 2021 and 30 September 2022:

Party Name	Party ID	Participant ID	Unit ID	Effective date
Gaelectric Energy Marketing & Supply Limited	PY_000136	PT_400160	GU_401830	06/10/2021
Rathmacan Trading Limited	PY_000185	PT_400212	GU_402140	06/10/2021
Cobblestone Energy Limited	PY_034091	PT_402582	AU_400127	24/11/2021
Cobblestone Energy Limited	PY_034091	PT_502523	AU_500115	24/11/2021
Trailstone GmbH	PY_000159	PT_400188	AU_400007	01/12/2021
Trailstone GmbH	PY_000159	PT_500107	AU_500005	01/12/2021
Bright Energy Supply ROI Limited	PY_034092	PT_402575	SU_400349	09/02/2022
Bright Energy Supply NI Limited	PY_034090	PT_502522	SU_500308	16/02/2022
Budget Energy Limited	PY_000169	PT_400196	SU_400206	09/03/2022
Convex Energy GmbH	PY_034067	PT_402558	AU_400128	11/05/2022
Axpo UK Limited	PY_034070	PT_402560	GU_403910	11/05/2022

SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_501650	11/05/2022
SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_503200	25/05/2022
SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_503210	25/05/2022
SSE Airtricity Energy Supply NI Limited	PY_000022	PT_500021	GU_501310	25/05/2022
Axpo UK Limited	PY_034070	PT_502520	GU_503380	25/05/2022
Axpo UK Limited	PY_034070	PT_502520	GU_503390	25/05/2022
Axpo UK Limited	PY_034070	PT_502520	GU_503370	25/05/2022
IBERDROLA IRELAND LIMITED	PY_034066	PT_402557	SU_400336	27/07/2022
ESB	PY_000030	PT_400030	GU_401200	07/09/2022
G.A.E.L Force Power Limited	PY_000079	PT_400069	SU_400141	14/09/2022

Table 17 - De-Registrations October 2021 – September 2022

Termination of Participants

There were no terminating parties between 1 October 2021 and 30 September 2022.

Suspension of Participants

No Suspension Orders were issued by the Market Operator between 1 October 2021 and 30 September 2022.

Supplier of Last Resort (SoLR)

Four SoLR events were called by the Regulators between 1 October 2021 and 30 September 2022. These are listed below. With the exception of Panda Power Ltd, all Supplier Units listed below ceased trading and were deregistered from the SEM.

Party Name	Party ID	Participant ID	Unit ID	SoLR transfer date
Bright Energy Supply ROI Ltd	PY_034092	PT_402575	SU_400349	26/01/2022
Bright Energy Supply NI Ltd	PY_034090	PT_502522	SU_500308	13/02/2022
Iberdrola Ireland Ltd	PY_034066	PT_402557	SU_400336	08/06/2022
Panda Power Ltd	PY_000116	PT_400161	SU_400185	01/10/2022

Table 18 – SoLR events

7 Manage Stakeholders

7.1 Structured Approach to Regulatory interface

SEMO and the Regulatory Authorities have developed a good working relationship around a number of formal interactions. The highlights of 2021-2022 are summarised below:

- Yearly parameters for SEM issued according to Trading & Settlement Code requirements;
- Ongoing collaboration in the area of Trading & Settlement Code modification with a large volume of proposals delivered as required;
- Monthly discussion with the Market Monitoring Unit (MMU) to track items of interest relating to market monitoring, compliance and surveillance;
- Ongoing collaboration in relation to Guarantees of Origin and Fuel Mix Disclosure processes, including the rolling and annual Fuel Mix Disclosure calculations, and the Green Source Product Verification.
- Ongoing collaboration with regards to analysis underpinning consultation and market changes, in particular in areas such as Credit Cover and Pricing parameters.

7.2 Facilitate Interaction with Customers

SEMO is proactive in interaction with its stakeholders. In the past 12 months SEMO has:

- Facilitated Bi-monthly Market Operator User Groups (MOUG), more details can be found in Appendix E.
- Held two SEMO Focus Group meetings with Industry participants and Regulatory Authorities.
- Held weekly Participant calls providing Market Operator updates.
- Facilitated calls and meetings with Market Participants on specific topics.
- Facilitated Registration calls and meetings for both new and existing Market Participants.

8 KPI Incentives 2021-2022

8.1 KPI Overview

The SEMC published on the 10 September 2021 its SEMO Key Performance Indicators Decision Paper SEM-21-073. Under this paper SEMO is subject to performance assessment against six KPIs related to

1. Invoicing
2. SEMO Resettlement Queries
3. General Queries
4. System Availability
5. Storage Technology Facilitation
6. Ad hoc Resettlement Process Rate

Please see Appendix F for a summary of each of the KPIs.

These KPIs are intended to:

- Incentivise Improvements in performance by attaching financial rewards to specific measures of performance.
- Allow for increased visibility of the operation of a regulated entity which can help inform future price reviews and lead to better outcomes for market participants and consumers.

As per the current SEMO price control decision, SEMO Key Performance targets are set out in Table 19¹ below.

KPI Number	Final Annual KPIs 2021-2024						KPI Reward in year 2021/22
	Metric	Weighting			Target	Upper Bound	
		2021/22	2022/23	2023/24			
1	Invoicing	15%	15%	25%	97%	100%	€ 73,800
2	SEMO Re-settlement Queries	20%	20%	30%	<15 per Qtr	<5 per Qtr	€ 98,400
3	Process Rate for Ad Hoc Resettlement to Clear Known Backlog	20%	20%	0%	6 weeks ad hoc completed in 4 week period	8 weeks ad hoc completed in 4 week period	€ 98,400
4a	General Queries (resolved within 20 business days)	5%			95%	99%	€ 24,600
4b	General Queries (resolved within 17 business days)		10%		95%	99%	
4c	General Queries (resolved within 15 business days)			15%	95%	99%	
5	System Availability	15%	15%	25%	99%	99.9%	€ 73,800
6	Storage Technology Facilitation	25%	20%	5%	Successful Implementation of enduring solution enabling full participation in BM	N/A	€ 123,000
	Maximum Available Reward Per Year based on 4% of Opex Allowance for 2021/22	100%	100%	100%			€ 492,000

Table 19 - Summary of the agreed Key Performance Indicators

¹ Extract from Table 5.4 of SEM-21-073 Decision Paper.

Conditions applied to the KPIs

The decision paper SEM-21-073 also outlines the following KPI parameters:

- The KPIs determined by the SEM Committee will come into effect from 1 October 2021 and apply until 30 September 2024.
- The incentive reward available to SEMO is 4% of the total proposed Opex allowance provided across the three-year period (equates to €1.5M) and KPIs will be measured on a quarterly basis.

8.2 Invoicing

8.2.1 Invoicing Outturn Performance 2021/22

The target for the Invoicing KPI was 97% with an upper bound limit of 100%.

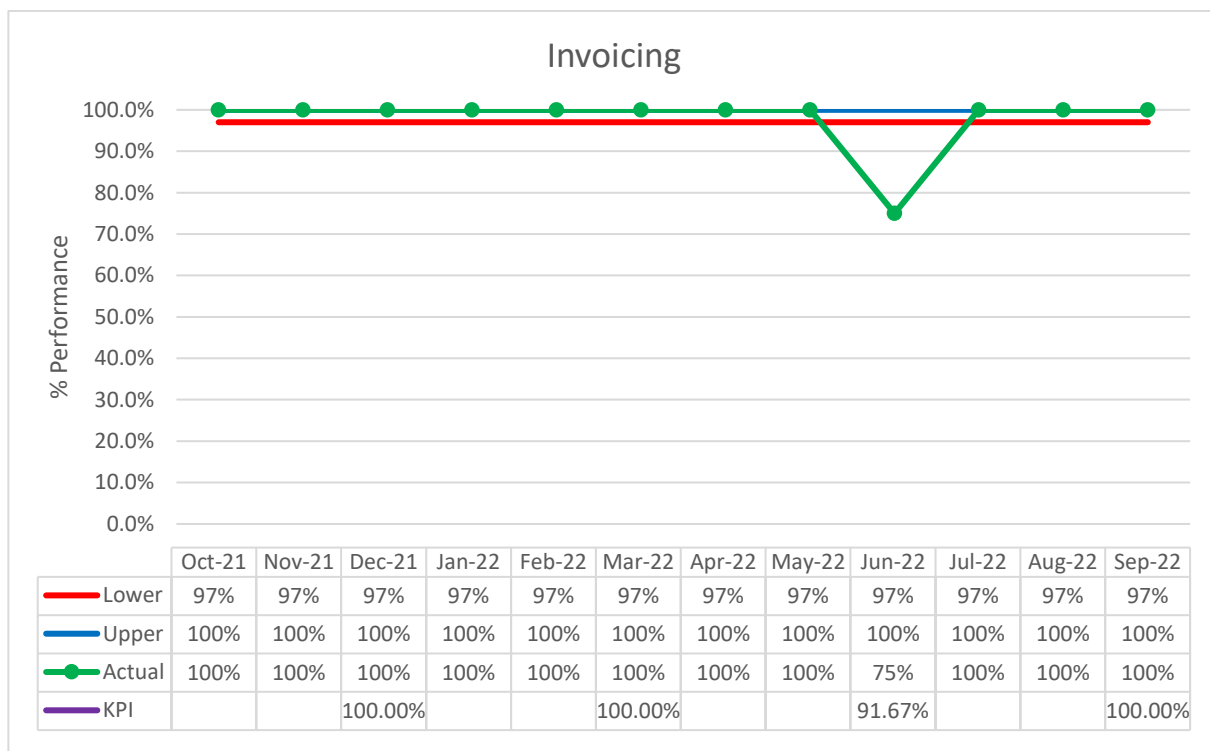


Figure 13 - Invoicing Performance

The upper bound target was achieved in Quarters 1, 2 and 4 of the Financial Year as shown in Figure 13 above. Neither the upper nor lower bound target was reached in Quarter 3.

Regarding the performance of invoicing in Quarter 3, four Settlement Documents were issued in June 2022. There was one delayed publication due to a "Settlement Document creation" performance issue in the CSB Settlements systems. This issue caused the Settlement Documents to be published at 3.30pm on June 13th (instead of before 12 noon on June 13th). A hotfix for the performance issue has since been deployed to CSB Settlement systems, with an enduring fix to be included as part of Release J.

Please see Appendix F for further detail on the invoicing performance.

8.3 SEMO Resettlement Queries

8.3.1 SEMO Resettlement Queries Outturn Performance 2021/22

The target for SEMO Resettlement Related Queries was <15 per Quarter upheld queries which require Resettlement per Quarter, with an upper bound limit of <5 per Quarter.

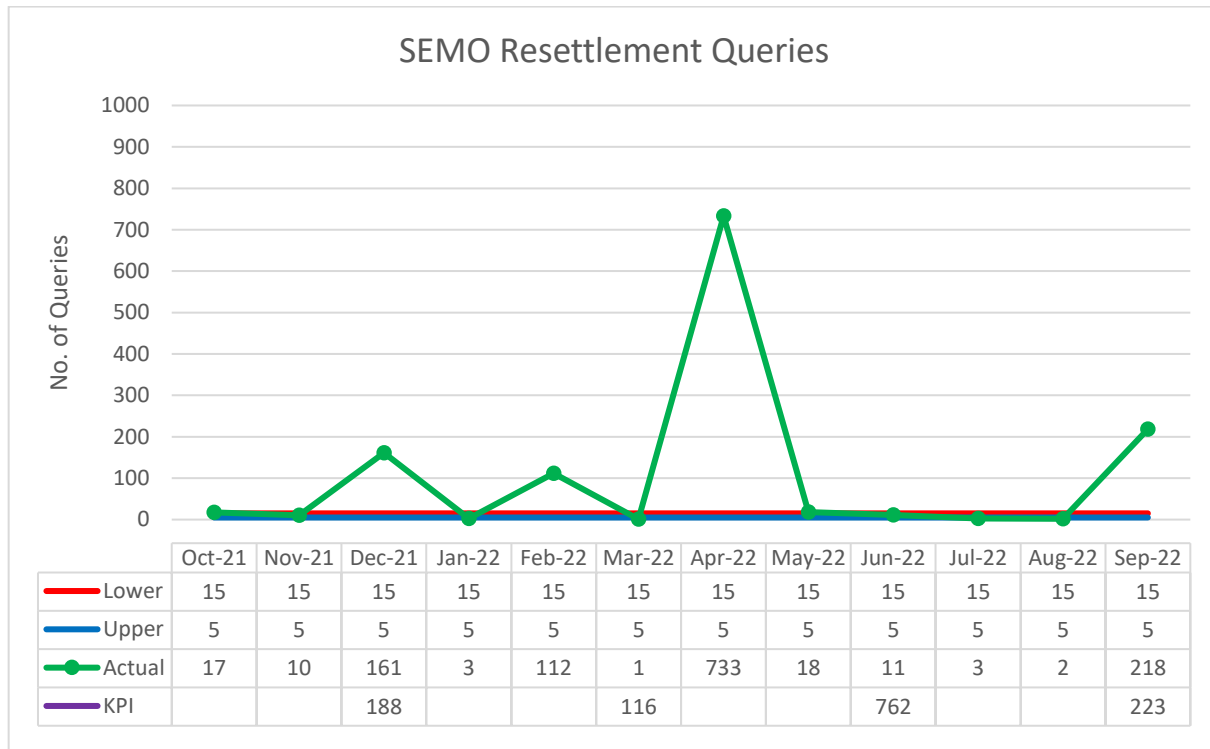


Figure 14 - SEMO Resettlement Related Queries Performance

The upper bound of this metric was five per Quarter. This target was not achieved in any four Quarters of the financial year, as shown in Figure 14 above.

The lower bound of this metric was fifteen per Quarter. This target was not achieved in any four Quarters of the financial year, as shown in Figure 14 above.

In 21/22 there were 60 upheld formal queries which equated to 1,289 incidents due to each trade day being classified as individual incidents.

There are three broad categories of areas driving formal queries;

1. Defects;
2. Processing Errors; and
3. Incorrect Parameters/Registrations.

8.4 Process Rate for Ad Hoc Resettlement to Clear Known Backlog

8.4.1 Process Rate for Ad Hoc Resettlement to Clear Known Backlog Performance Outturn 2021/22

The target for the Process Rate for Ad Hoc Resettlement to Clear Known Backlog is 6 weeks ad hoc resettlement to be completed in a 4 week period, with the upper bound target of 8 weeks hoc resettlement to be completed in a 4 week period.

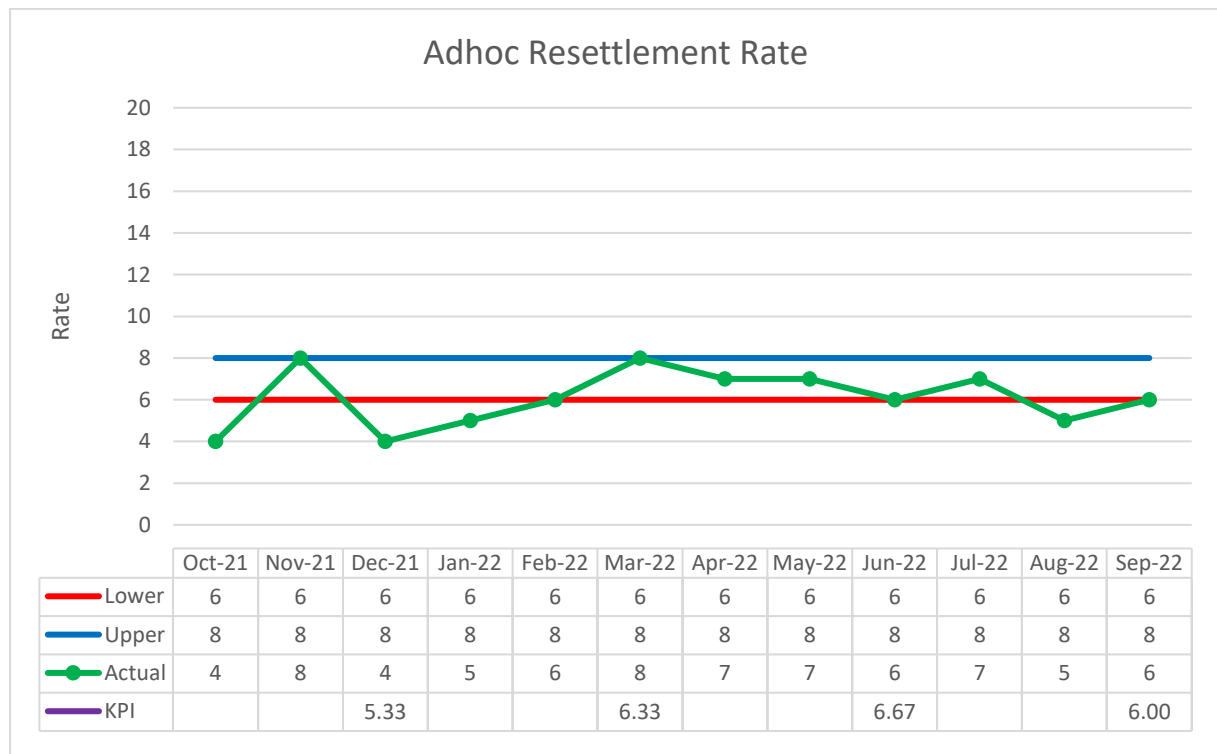


Figure 15 - Process Rate for Ad Hoc Resettlement

The upper bound of this metric equates to an average of 8 weeks ad hoc resettlement in a 4 week period over the course of each quarter. The lower bound of this metric equates to an average of 6 weeks ad hoc resettlement in a 4 week period over the course of each quarter. This target was achieved in Quarters 2, 3 and 4 of the financial year, but not in Quarter 1 as shown in Figure 15 above.

8.5 General Queries

8.5.1 General Queries Outturn Performance 2021/22

The target for the General Queries Delivery KPI was 95% with an upper bound limit of 99%. The KPI requires that SEMO resolves 99% of its queries within 20 working days during 2021/22.

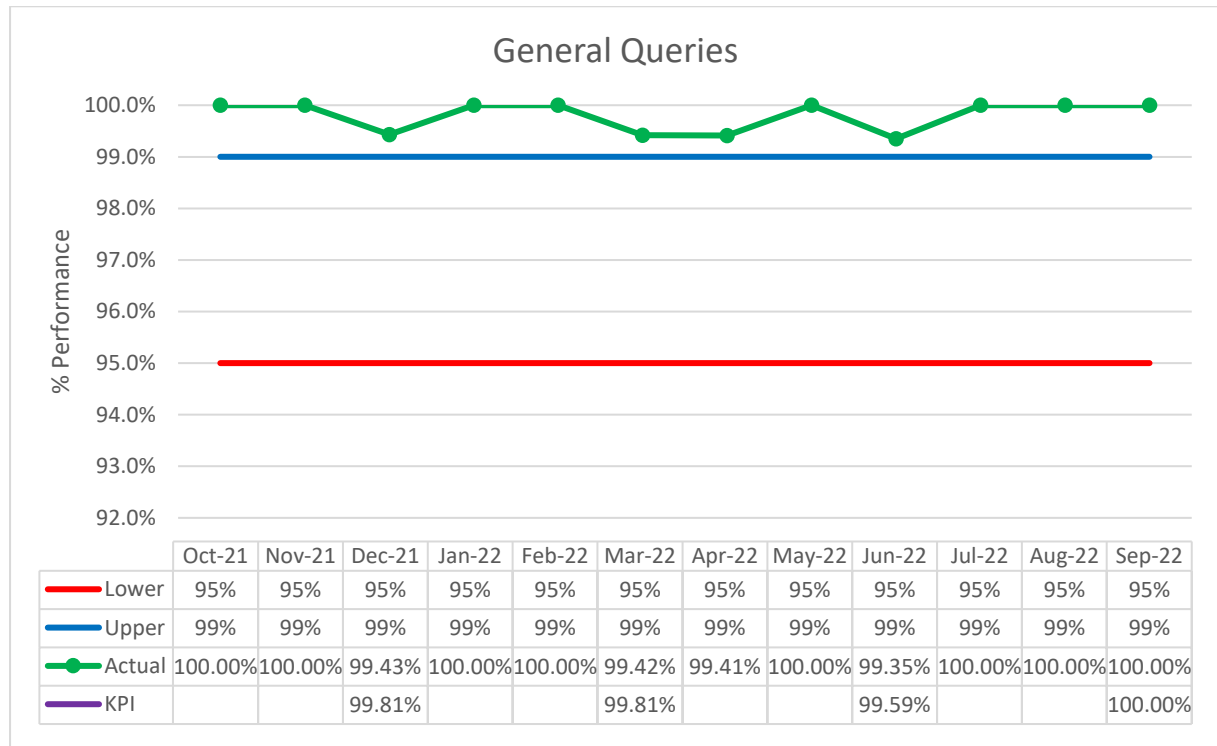


Figure 16 - General Queries Performance

In financial year 2021-2022 SEMO resolved 2016 helpdesk general queries. Query resolution time is impacted by several factors. For example, the complexity and scale of the query received, operational resources availability and the fact that formal and urgent queries have to be prioritized, and often the nature of the request requires cross functional assistance and/or escalation to a third party vendor.

The upper bound target was exceeded in Quarters 1, 2, 3 and 4 as shown in Figure 16 above.

8.6 System Availability

8.6.1 System Availability Outturn Performance 2021/22

The target for the System Availability KPI was 99% with an upper bound of 99.9%.

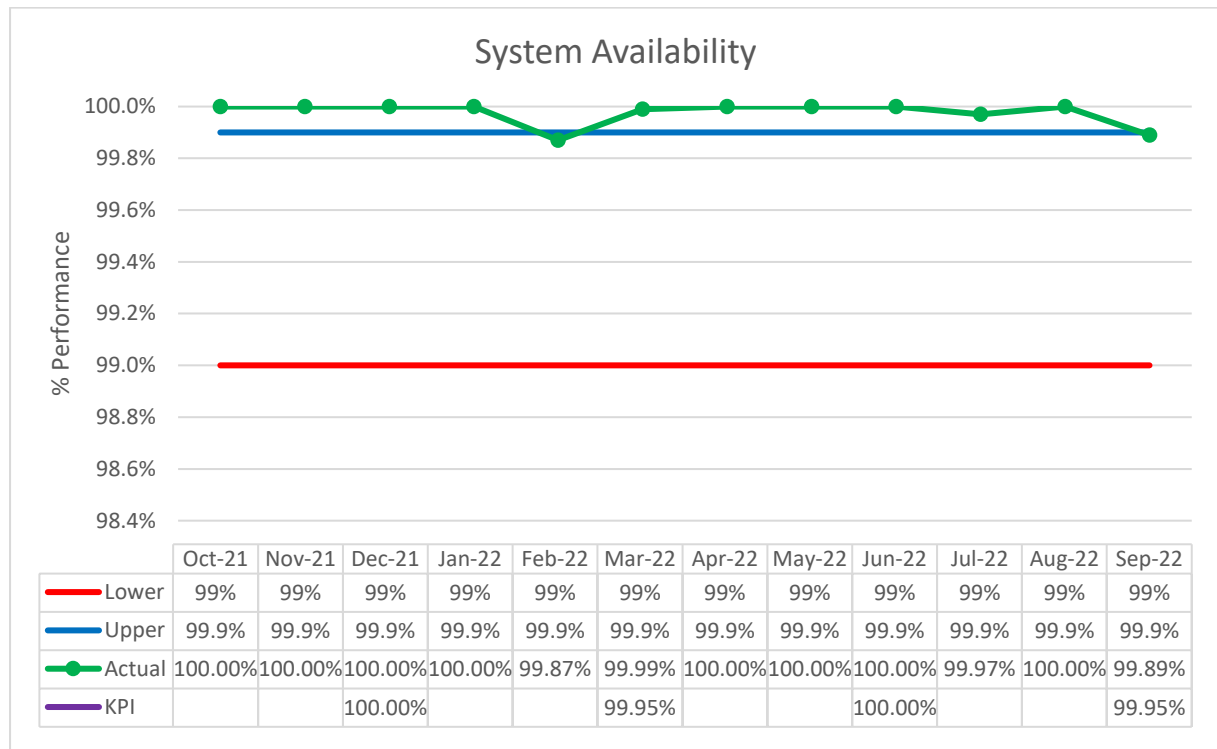


Figure 17 – System Availability Performance

The lower bound target of this metric was achieved in all four Quarters of the financial year. The upper bound target of this metric was exceeded in all four Quarters of the financial year.

The System Availability KPI is assessed against the following 5 systems as per SEM-21-073:

1. Balancing Market systems on a 24-hour basis Monday to Sunday
2. Settlement and Credit Clearing system between 9am-5pm Monday to Friday
3. Market Participant Interface on a 24-hour period Monday to Sunday.
4. Registration system between 9am-5pm Monday to Friday
5. Website availability between 8am-6pm Monday to Friday

As per SEM-21-073, please see a breakdown of the system availability for each of the 5 system in the table below.

System / Application	2021/2022 Availability %																
	Oct-21	Nov-21	Dec-21	Q1	Jan-22	Feb-22	Mar-22	Q2	Apr-22	May-22	Jun-22	Q3	Jul-22	Aug-22	Sep-22	Q4	Annual Availability %
Settlements (CSB)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Market Interface (MI)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Market Applications (MA)	100.00%	100.00%	100.00%	100.00%	100.00%	99.33%	99.93%	99.75%	100.00%	100.00%	100.00%	100.00%	99.87%	100.00%	99.44%	99.77%	99.89%
Reporting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Website	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Average System Availability	100.00%	100.00%	100.00%	100.00%	100.00%	99.87%	99.99%	99.95%	100.00%	100.00%	100.00%	100.00%	99.97%	100.00%	99.89%	99.95%	99.98%

Table 20 – System Availability Performance per System

8.7 Storage Technology Facilitation

8.7.1 Storage Technology Facilitation Outturn Performance 2021/22

The target for the Storage Technology Facilitation KPI requires -

“Successful Implementation of enduring solution enabling full participation in the Balancing Market including:

- Registration difficulties resolved;
- Negative PNs can be accepted and processed;
- Overall level playing field for storage technology providers”

As stipulated in SEM-21-073, the storage technology assumptions to be applied is that assessment of this KPI will include RAs engagement with SEMO and industry.

This work is currently being progressed under initiative #2 (ESPS integration) of the scheduling and dispatch programme (SDP). There are six initiatives in scope for SDP and initiative 2 has been identified as the highest priority for delivery following industry feedback and considering TSOs & MO and consumer interests. The SDP commenced Phase 2 (detailed requirements and design) in mid-March '23 and work is currently progressing on detailed requirements and design for system changes required for ESPS. This design work will take a number of months and involves engagement with the various system vendors. An exact delivery timeline for initiative 2 will become clear as we progress through detailed design and address some of the current uncertainties e.g. level of complexity of solution, interaction with other work programmes impacting the same S&D systems, however, the current target is to deliver initiative 2 in late 2024. Stakeholders will be updated on delivery timelines as Phase 2 work progresses.

8.8 Performance Summary against KPI Targets

Table 21 below, summarises the overall Regulatory Approved KPI targets and the outturn KPI figures per Quarter. The light grey area indicates the KPI targets agreed in the SEMO Revenue Requirement Decision Paper (SEM-21-073). The darker grey columns show the percentage outturn achieved by SEMO for each KPI per Quarter while the blue column indicates the average performance over the four Quarters. SEMO scored quite well in some of the KPIs, in particular Invoicing, General Queries, and System Availability. However, SEMO Settlement Queries performed quite poorly throughout the year based on the metric criteria as set out in the price control decision. SEMO achieved its target regarding the Process Rate for Ad Hoc Resettlement to Clear Known Backlog in Q2, Q3 and Q4. For its first year as a new KPI, this is a strong indicator of SEMO's focus to clear the known backlog. As stated above, the Storage Technology Facilitation is currently being progressed through the Scheduling and Dispatch Programme and did not achieve its target during FY2021/22.

SEMO KPI Outturn 2021/2022								
SEMO KPIs - as per SEM-21-073				Performance by Quarter				Overall Performance
Metric	Weighting	Target	Upper Bound	Oct-Dec Q1	Jan-Mar Q2	Apr-June Q3	Jul-Sept Q4	2021/22
Invoicing	15%	97%	100%	100.00%	100.00%	91.67%	100.00%	97.92%
SEMO Settlement Queries	20%	<15 per Q	<5 per Q	188	116	762	223	1,289
Process Rate for Ad Hoc Resettlement to Clear Known Backlog	20%	6 wks adhoc in 4 wk period	8 wks adhoc in 4 wk period	5.33	6.33	6.67	6	6.083
General Queries	5%	95%	99%	99.81%	99.81%	99.59%	100.00%	99.8%
System Availability	15%	99%	99.9%	100.00%	99.95%	100.00%	99.95	99.98
Storage Technology Facilitation	25%	Successful implementation on enduring solution enabling full participation in the Balancing Market	N/A	-	-	-	-	-

Table 21 - SEMO Performance 2021-2022

8.9 Incentive earned by SEMO

The SEMO Revenue Requirement Decision Paper (SEM-21-073) states that the ‘The incentive reward available to SEMO is 4% of the total proposed opex allowance provided across the three-year period (which equates to €1.5M).’ The approved OPEX revenue for 2021-2022 was €12,300,000 (2020 Monies)¹. 4% of this amount translates to a KPI pot of €492,000 in 2020 monies².

Table 22 below illustrates:

- The earned reward per Quarter
- The maximum available reward per Quarter
- The percentage KPI reward achieved per Quarter

Incentive earned per Quarter 2021/22					
Performance Indicator	Oct-Dec	Jan-Mar	Apr-June	Jul-Sept	
	Q1	Q2	Q3	Q4	TOTAL
Invoicing	€9,225	€9,225	€0	€9,225	€27,675
SEMO Settlement Queries	€0	€0	€0	€0	€0
Process Rate for Ad hoc Resettlement to Clear Known Backlog	€0	€4,100	€8,200	€0	€12,300
General Queries	€6,150	€6,150	€6,150	€6,150	€24,600
System Availability	€18,450	€18,450	€18,450	€18,450	€73,800
Storage Technology Facilitation	€0	€0	€0	€0	€0
KPI reward per Quarter (in March 2020 monies)	€33,825	€37,925	€32,800	€33,825	€138,375
Maximum Available Reward in Quarter	€113,775	€113,775	€113,775	€113,775	€455,100
Percentage of Total Achieved in Quarter	29.73%	33.33%	28.83%	29.73%	30.41%

Table 22 - Summary of the KPI monetary reward 2021-2022

Based on a comprehensive set of KPI data SEMO have calculated the KPI reward in Table 22 above to be 138,375 (in 2020 monies). This represents an overall percentage reward of 30.41% of the maximum amount available³.

It is assumed that this KPI reward is recovered through the adjustment of the K Factor as per previous price controls (see section 2.5 of the SEMO Key Performance Indicators Decision Paper – SEM-19-033⁴).

¹ Reference figure 3.4 of SEM-21-073

² RPI-x will be applied to the incentive earned by SEMO as part of the adjustment to the K-Factor.

³ It is noted that the invoicing target has been amended and the overall available award has been reduced by 50%. Please see Appendix F for further detail on the updated invoicing performance metrics.

⁴ [SEM-19-033](#)

Appendix A: Trading and Settlement Code Breaches

Meter Data Provider Breaches

Ops Date Identified	Run Type	Issue	MDP Provider	Issue Type	Description T&SC Breach	T&SC Breach	Status
06/10/2021	D+1	Timing	EirGrid	File submission of ACTA data	Delay of 6 mins	Minor	Closed
29/10/2021	D+4	Timing	EirGrid	File submission of ACTA data	Delay of 66 mins	Minor	Closed
29/10/2021	D+1	Timing	EirGrid	File submission of DI data	Delay of 67 mins	Minor	Closed
30/10/2021	D+1	Timing	EirGrid	File submission of ACTA data	Delay of 66 mins	Minor	Closed
30/10/2021	D+1	Timing	EirGrid	File submission of DI data	Delay of 69 mins	Minor	Closed
31/10/2021	D+1	Timing	EirGrid	File submission of ACTA data	Delay of 74 mins	Minor	Closed
31/10/2021	D+1	Timing	EirGrid	File submission of DI data	Delay of 73 mins	Minor	Closed
06/11/2021	D+4	Timing	SONI	File submission of ACTA data	Delay of 97 mins	Minor	Closed
29/11/2021	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
05/01/2022	D+1	Timing	SONI	File submission of Metering data	Delay of 30 mins	Minor	Closed
12/01/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 20 mins	Minor	Closed
12/01/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 22 mins	Minor	Closed
01/02/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 8 mins	Minor	Closed
02/02/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 12 mins	Minor	Closed
09/02/2022	D+1	Timing	EirGrid	File submission of ACTA data	Delay of 2 hrs	Minor	Closed
11/02/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 49 mins	Minor	Closed
12/02/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 49 mins	Minor	Closed
13/02/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 49 mins	Minor	Closed
20/02/2022	D+1	Timing	EirGrid	File submission of Metering data	Delay of 2hrs 26 mins	Minor	Closed
21/02/2022	D+1	Timing	EirGrid	File submission of Metering data	Delay of 1 hr 54 mins	Minor	Closed
11/03/2022	D+4	Timing	SONI	File submission of DI data	Delay of 49 mins	Minor	Closed
12/03/2022	D+4	Timing	SONI	File submission of DI data	Delay of 10 mins	Minor	Closed
14/03/2022	D+1	Timing	SONI	File submission of DI data	Delay of 9 mins	Minor	Closed
15/03/2022	D+1	Timing	SONI	File submission of DI data	Delay of 10 mins	Minor	Closed
28/03/2022	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
10/05/2022	D+1	Timing	EirGrid	File submission of ACTA data	Delay of 17 mins	Minor	Closed
10/05/2022	D+1	Timing	SONI	File submission of DI data	Delay of 71 mins	Minor	Closed
26/05/2022	D+1	Timing	SONI	File submission of Metering data	Delay of 32 mins	Minor	Closed
14/06/2022	D+4	Timing	SONI	File submission of Metering data	Delay of 2hrs 34 mins	Minor	Closed
19/06/2022	D+1	Timing	SONI	File submission of Metering data	Delay of 2 hrs	Minor	Closed
26/07/2022	D+1	Timing	MRSO	File submission of Metering data	Delay of 2hrs 5 mins	Minor	Closed
28/09/2022	D+4	Timing	EirGrid	File submission of ACTA data	Delay of 1 hr 59 mins	Minor	Closed

Table 23 - Meter Data Provider Breaches

Market Participant Breaches

Month	Default Notices Issued	No. of Parties
Oct-21	6	5
Nov-21	2	2
Dec-21	2	2
Jan-22	4	4
Feb-22	4	3
Mar-22	4	4
Apr-22	8	6
May-22	3	3
Jun-22	6	6
Jul-22	8	8
Aug-22	6	4
Sep-22	9	8
Total	62	55

Table 24- Clearing Default Notices

Month	No of. Defaults issued	No.of Participants
Oct-21	-	-
Nov-21	-	-
Dec-21	8	2
Jan-22	7	1
Feb-22	6	1
Mar-22	9	3
Apr-22	7	2
May-22	9	2
Jun-22	7	1
Jul-22	9	3
Aug-22	10	4
Sep-22	3	1
Total	75	20

Table 25 - Credit Default Notices

Market Operator Defaults

Indicative			
Month	On Time	Same Day Late	> 1 Day Late
Oct 2021	26	1	4
Nov 2021	25	3	2
Dec 2021	26	4	1
Jan 2022	20	2	9
Feb 2022	17	4	7
Mar 2022	30	0	1
Apr 2022	26	1	3
May 2022	28	0	3
Jun 2022	29	0	1
Jul 2022	29	0	2
Aug 2022	30	0	1
Sep 2022	28	1	1
Totals	314	16	35

Table 26- Delays to Indicative Settlement Runs

Initial			
Month	On Time	Same Day Late	> 1 Day Late
Oct 2021	31	0	0
Nov 2021	30	0	0
Dec 2021	28	1	2
Jan 2022	30	1	0
Feb 2022	28	0	0
Mar 2022	31	0	0
Apr 2022	30	0	0
May 2022	31	0	0
Jun 2022	30	0	0
Jul 2022	31	0	0
Aug 2022	31	0	0
Sep 2022	30	0	0
Totals	361	2	2

Table 27- Delays to Initial Settlement Runs

Market Operator Breaches (Credit Risk)

Ops Date Identified	PT Name	Issue Type	Cause	Closed T & SC	Breach
14/10/2021	All	Non-Publication - 12pm Credit report	CIM Load run time, could not process	Yes	Major
29/10/2021	All	Non-Publication - 3.30pm Credit report	Missing DAM Trades, could not process	Yes	Major
22/11/2021	PT_400161 Panda Power	Cash Collateral Refund	Not Processed within the TSC Timelines	Yes	Major
06/12/2021	All	Non-Publication - 3.30pm Credit report	Delay to Indicative processing	Yes	Major
04/01/2022	All	Non-Publication	Analysis Required	Yes	Major
12/01/2022	All	Non-Publication	Internal processing system issue	Yes	Major
09/02/2022	All	Non-Publication - 3.30pm Credit report	Script deployed, could not process	Yes	Major
27/09/2022	All	Non-Publication - 3.30pm Credit report	Internal processing system issue	Yes	Major

Table 28 - Non-Publications of Credit Reports

Ops Date Identified	PT Name	Issue Type	Cause	Closed T & SC	Breach
14/10/2021	All	Delayed - 12pm Credit report	Internal processing system issue	Yes	Minor
29/10/2021	All	Delayed - 12pm Credit report	Internal processing system issue	Yes	Minor
04/11/2021	All	Delayed - 12pm Credit report	CIM Load longer than expected	Yes	Minor
09/12/2021	All	Delayed - 9am Credit report	Hot fix deployed, could not process	Yes	Minor
30/12/2021	All	Delayed - 3.30pm Credit report	Internal processing system issue	Yes	Minor
04/01/2022	All	Delayed - 3.30pm Credit report	Analysis required on high volume of breaches	Yes	Minor
12/01/2022	All	Delayed - 12pm Credit report	Internal processing system issue	Yes	Minor
10/06/2022	All	Delayed - 9am Credit report	Internal processing system issue	Yes	Minor
06/07/2022	All	Delayed - 3.30pm Credit report	Internal processing system issue	Yes	Minor
07/07/2022	All	Delayed - 9am Credit report	Internal processing system issue	Yes	Minor
21/07/2022	All	Delayed - 9am Credit report	Internal processing system issue	Yes	Minor
29/07/2022	All	Delayed - 9am Credit report	Internal processing system issue	Yes	Minor
02/08/2022	All	Delayed - 3.30pm Credit report	Internal processing system issue	Yes	Minor
03/08/2022	All	Delayed - 12pm Credit report	Internal processing system issue	Yes	Minor
04/08/2022	All	Delayed - 12pm Credit report	External banking system outage	Yes	Minor
12/08/2022	All	Delayed - 9am Credit report	Internal processing system issue	Yes	Minor
13/09/2022	All	Delayed - 12pm Credit report	Internal processing system issue	Yes	Minor
14/09/2022	All	Delayed - 9am Credit report	Internal processing system took longer than expected	Yes	Minor
27/09/2022	All	Delayed - 9am Credit report	Internal processing system issue	Yes	Minor
27/09/2022	All	Delayed - 12pm Credit report	Internal processing system issue	Yes	Minor

Table 29 - Delayed – Credit Publications

Appendix B: Settlement publication delays

Indicative Settlement

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Oct	04th	1	Indicative	Timing	SEMO	Processing Issue	Pricing Update	Change to the strike price	Processing continued and Indicative completed after target date	Minor	Closed
Oct	11th	1	Indicative	Timing	SEMO	Processing Issue	Issue with PUSH processing	Slow PUSH times	PUSH issue resolved and Indicative completed late on target date	Minor	Closed
Oct	29th-31st	3	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) and DI files	Files received late	ACTA and DI data received and Indicatives completed after target date	Minor	Closed
Nov	1st	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	SONI MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed
Nov	3rd	1	Indicative	Timing	SEMO	Processing Issue	Issue with CIM	CIM load delayed IP processing	CIM issue resolved and Indicatives completed late on target date	Minor	Closed
Nov	21st	1	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late on target date	Minor	Closed
Nov	28th	1	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late on target date	Minor	Closed
Nov	29th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	NI ACTA files received late	ACTA data received and Indicatives completed late after target date	Minor	Closed
Dec	1st,4th,5th,18th,19th	5	Indicative	Timing	SEMO	Known Issue Report (KIR) #244,943	Billcase performance for last day of billing period	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late on target date	Minor	Closed
Jan	1st,2nd,3rd,15th,16th	5	Indicative	Timing	SEMO	Known Issue Report (KIR) #244,943	Billcase performance for last day of billing period	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed after target date	Minor	Closed
Jan	4th,5th	2	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	SONI MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed
Jan	12th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	MRSO MDP data received late	MDP data received and Indicatives completed late on target date	Minor	Closed
Jan	20th	1	Indicative	Timing	SEMO	Processing Issue	Issue with PUSH processing	PUSH failure	PUSH issue resolved and Indicatives completed late after target date	Minor	Closed
Jan	24th	1	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late on target date	Minor	Closed
Jan	26th	1	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late after target date	Minor	Closed
Feb	8th	1	Indicative	Timing	SEMO	Processing Issue	Data Import issue	Issue with importing data into CSB(Processing System).	Processing continued and Indicatives completed late on target date	Minor	Closed
Feb	9th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	ROI ACTA files received late	ACTA data received and Indicatives completed late on target date	Minor	Closed
Feb	11th,12th,13th	3	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	MRSO MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed
Feb	16th	1	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed
Feb	17th	1	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late on target date	Minor	Closed
Feb	19th,20th,21st	3	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	EirGrid MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed

Feb	23rd	1	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late on target date	Minor	Closed
Mar	28th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	NI ACTA files received late	ACTA data received and Indicatives completed late after target date	Minor	Closed
Apr	1st-3rd	3	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than usual processing times	Processing continued and Indicatives completed late after target date	Minor	Closed
Apr	27th	1	Indicative	Timing	SEMO	Processing Issue	Issue with CIM	CIM load delayed IP processing	CIM issue resolved and Indicatives completed late on target date	Minor	Closed
May	10th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Dispatch Instruction (DI) files	SONI DI files received late	DI data received and Indicatives completed late after target date	Minor	Closed
May	11th	1	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed

May	18th	1	Indicative	Timing	SEMO	Processing Issue	Issue with CIM	CIM load delayed IP processing	CIM issue resolved and Indicatives completed late after target date	Minor	Closed
Jun	19th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	SONI MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed
Jul	20th	1	Indicative	Timing	SEMO	Processing Issue	Issue with CIM	CIM load delayed IP processing	CIM issue resolved and Indicatives completed late after target date	Minor	Closed
Jul	26th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	MRSO MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed
Aug	9th	1	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed
Sep	21st	1	Indicative	Timing	SEMO	Processing Issue	Issue with CIM	CIM load delayed IP processing	CIM issue resolved and Indicatives completed late on target date	Minor	Closed
Sep	28th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	ROI ACTA files received late	ACTA data received and Indicatives completed late after target date	Minor	Closed

Initial Settlement

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Dec	6th	1	Initial	Timing	SEMO	Processing Timeline	Additional analysis required	Additional financial analysis required	Analysis completed and Initials completed late on target date	Minor	Closed
Dec	27th	1	Initial	Timing	SEMO	Processing Issue	Issue with Actual Availabilities (ACTA) files	New ACTA D+4 file required for the 27/12	ACTA issue resolved and Initials completed late after target date	Minor	Closed
Dec	28th	1	Initial	Timing	SEMO	Processing Timeline	Processing backlog	Backlog from previously delayed runs	Backlog worked through and Initials completed late on target date	Minor	Closed
Jan	17th	1	Initial	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Initials completed late on target date	Minor	Closed

Settlement Documents

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Jun	13th	1	Settlement Documents	Timing	SEMO	Settlement Document creation performance issue	Performance issue in the CSB Settlement Systems	System Performance	A hotfix for the performance has been deployed with an enduring solution included as part of Release I	Major	Closed

Table 30 - Settlement Publication Delays

Appendix C: List of Queries by Type

Charge Component	Upheld	Not Upheld
CUNIMB	28	10
CIMB	30	6
CFC	20	10
CDISCOUNT	22	6
CCP	13	
CPREMIUM	10	1
Grand Total	123	33

Table 31- Upheld and Not Upheld Queries

Appendix D: Imbalance Prices

Month	Published Imbalance Prices	Expected Count of Imbalance Prices	Missed Imbalance Prices
Oct	8826	8940	114
Nov	8408	8640	34
Dec	8928	8928	0
Quarter 1 Total	26162	26508	148
Jan	8920	8928	8
Feb	8064	8064	0
Mar	8916	8916	0
Quarter 2 Total	25900	25908	8
Apr	8622	8640	18
May	8894	8928	34
Jun	8640	8640	0
Quarter 3 Total	26156	26208	52
Jul	8928	8928	0
Aug	8923	8928	5
Sep	8640	8640	8
Quarter 4 Total	26491	26496	13

Table 32– Missed 5Min Imbalance Prices

Month	Market Back Up Prices	Ex-Ante Market Back Up Price	Published Imbalance Settlement Prices	Expected Count of Imbalance Settlement Prices
Oct	2	0	1463	1490
Nov	0	0	1362	1440
Dec	18	0	1467	1488
Quarter 1 Total	20	0	4292	4418
Jan	17	19	1473	1488
Feb	10	0	1334	1344
Mar	14	0	1472	1486
Quarter 2 Total	41	19	4279	4318
Apr	9	3	1428	1440
May	0	0	1488	1488
Jun	4	0	1436	1440
Quarter 3 Total	13	3	4352	4368
Jul	1	0	1487	1488
Aug	2	0	1486	1488
Sep	30	0	1448	1440
Quarter 4 Total	33	0	4421	4416

Table 33 – Application of 30Min Market Back Up Price

Month	Period Starting	Min Price	Period Starting	Max Price	Avg Price
October	30/10/2021 21:50	-€ 543.19	20/10/2021 15:55	€ 736.80	€ 197.62
November	05/11/2021 11:10	-€ 1,000.00	05/11/2021 08:10	€ 697.13	€ 197.90
December	10/12/2021 04:20	-€ 1,000.00	20/12/2021 12:30	€ 557.14	€ 235.02
January	19/01/2022 05:00	-€ 736.52	05/01/2022 17:30	€ 637.59	€ 180.44
February	05/02/2022 22:30	-€ 1,000.00	19/02/2022 10:45	€ 724.48	€ 175.44
March	09/03/2022 00:45	-€ 1,000.00	07/03/2022 20:20	€ 812.76	€ 275.22
April	10/04/2022 22:35	-€ 1,000.00	29/04/2022 20:05	€ 545.00	€ 202.82
May	09/05/2022 04:40	-€ 1,000.00	01/05/2022 22:35	€ 513.63	€ 141.56
June	19/06/2022 05:15	-€ 185.10	12/06/2022 17:50	€ 538.93	€ 178.33
July	23/07/2022 23:45	-€ 189.62	12/07/2022 16:00	€ 839.93	€ 252.45
August	03/08/2022 06:15	-€ 415.94	11/08/2022 17:20	€ 889.72	€ 375.32
September	27/09/2022 03:55	-€ 291.69	23/09/2022 10:35	€ 840.31	€ 270.26

Table 34 – High/Low/Average 5Min Imbalance Prices

Month	Period Starting	Min Price	Period Starting	Max Price	Avg Price
October	23/10/2021 16:00	-€ 152.47	15/10/2021 17:30	€ 905.65	€ 224.18
November	12/11/2021 06:00	-€ 117.75	05/11/2021 08:30	€ 533.74	€ 197.00
December	23/12/2021 04:00	-€ 332.04	22/12/2021 21:30	€ 530.20	€ 237.62
January	12/01/2022 23:00	-€ 456.34	05/01/2022 18:00	€ 637.59	€ 178.86
February	16/02/2022 02:00	-€ 130.13	19/02/2022 11:00	€ 536.76	€ 172.27
March	17/03/2022 06:30	-€ 166.67	07/03/2022 18:00	€ 767.41	€ 275.21
April	10/04/2022 22:00	-€ 326.79	08/04/2022 09:30	€ 498.43	€ 206.29
May	09/05/2022 05:00	-€ 411.72	05/05/2022 09:30	€ 499.97	€ 138.88
June	11/06/2022 00:00	-€ 11.58	12/06/2022 18:00	€ 509.24	€ 177.63
July	25/07/2022 12:00	-€ 3.33	12/07/2022 15:30	€ 770.13	€ 251.78
August	02/08/2022 01:00	-€ 62.28	11/08/2022 17:30	€ 787.69	€ 372.23
September	27/09/2022 02:00	-€ 106.15	23/09/2022 11:00	€ 609.34	€ 274.05

Table 35– High/Low/Average 30Min Imbalance Settlement Prices

Appendix E: Market Operator User Groups

Market Operator User Group (MOUG)	
Date	Location
14/10/2021	MS Teams
16/12/2021	MS Teams
27/01/2022	MS Teams
24/03/2022	MS Teams
26/05/2022	MS Teams
08/09/2022	MS Teams

Table 36 – MOUG dates

Appendix F: KPI Metrics Overview

Invoicing

The Invoicing targets refer to the percentage of occurrences where invoices to all participants are published on time. As per the Trading and Settlement Code Part B and Agreed Procedure 15 document:

- The target for the weekly Balancing/Imbalance (BALIMB) Settlement Documents is as per the Settlement Documents for Trading Payments and Trading Charges which, in respect of each Billing Period, shall be produced and issued to all Participants in respect of their Units by 12:00 on Billing Period +5 Working Days.
- The target for Capacity settlement documents is 12:00 ten working days after the end of each month.

The invoicing assumptions to be applied are as follows:

- i. System Operator system failures and issues outside of SEMO's control are to be excluded from the KPI measurement.
- ii. Planned outages, planned releases and
- iii. releases that have an impact on measurement of this KPI are excluded.

Please note that due to a discrepancy in the invoicing timeframes stated in the Price Control and those in the Trading & Settlement Code Agreed Procedure 15, identified by SEMO as part of the submission of this report to the RA's, the Invoicing KPI has been revised from 4 KPI's to 2. This reflects the RA's decision to remove the Variable and Fixed Market Operator Charge targets and to reduce the invoicing incentive by 50%. SEMO continues to issue the Variable and Fixed Market Operator Charge as per the specific timelines in the revised Market Operator Settlement Calendar publishing schedule, introduced in May 2021.

SEMO Resettlement Queries

This KPI refers to the number of upheld formal queries from market participants who have identified errors in settling the market which are attributed to SEMO's operations and processes, including defects and pricing issues. Correction of such errors is completed in either the scheduled Resettlement (M+4 and M+13) or in an ad hoc Resettlement.

Measurement of this KPI is related to the number of SEMO upheld query incidents and Resettlements per Quarter. Multiple Upheld Queries for one incident shall be classified as one Upheld Query Incident. A Formal Query referencing a number of days shall be classified as Multiple Upheld Queries Incidents.

The SEMO resettlement queries assumptions to be applied are as follows:

- i. Multiple Upheld Queries for one incident shall be classified as one Upheld Query Incident.
- ii. Planned outages, planned releases and ad-hoc releases that have an impact on measurement of this KPI are excluded.

General Queries

The General Queries targets refer to the percentage of occurrences where a General Query is not resolved within 20 business days within 2021/22¹. A General Query is defined within this metric as any request logged at the SEMO helpdesk.

The general queries assumptions to be applied are as follows:

- i. Queries unresolved for more than 20 business days during 2021/22 are only counted once against the metric per quarter and not on a rolling basis.
- ii. If further information is requested following resolution of a query this can be counted as a new query.
- iii. If information requested is dependent on third parties and is outside of SEMO's control this does not impact on the calculation of the metric.

System Availability

System availability is the availability of central market systems which the Market Operator has responsibility for according to their required availability. This is the ratio of the time systems are said to be in a functioning condition to the total time they are required to be available and covers the following:

1. Balancing Market systems on a 24-hour basis Monday to Sunday
2. Settlement and Credit Clearing system between 9am-5pm Monday to Friday
3. Market Participant Interface on a 24-hour basis Monday to Sunday
4. Registration system between 9am-5pm Monday to Friday
5. Website availability between 8am-6pm Monday to Friday

The system availability assumptions to be applied are as follows:

- i. Planned outages, planned releases and ad-hoc releases that have an impact on measurement of this KPI are excluded.
- ii. System Operator events beyond the control of the Market Operator are excluded from the metric.
- iii. Reporting and Market Monitoring system is not yet operational and therefore the Market Participant Interface will be monitored in its place until it is built and implemented.
- iv. The overall calculation of system availability is based on the average of the measured availability of systems 1-5 in the KPI, however when reporting on this KPI the system availability should be provided for each of the 5 systems.

Storage Technology Facilitation

The Storage Technology Facilitation KPI is the Successful Implementation of enduring solution enabling full participation in the Balancing Market including:

- Registration difficulties resolved;
- Negative PNs can be accepted and processed;
- Overall level playing field for storage technology providers

¹ The number of business days in which SEMO is required to resolve General Queries within for this KPI changes from year to year, with 17 business days during 2022/23 and 15 business days 2023/24. The proposed weighting for this KPI also changes for 2022/23 and 2023/24. See Table A3 of SEM/21/073 for further breakdown.

The storage technology assumption to be applied is:

- i. Assessment of this KPI will include RAs engagement with SEMO and industry.

Ad hoc Resettlement Process Rate

The Ad hoc Resettlement Process Rate KPI relates to the Accelerated approach to known backlog of ad hoc resettlement existing since SEM Go Live in October 2018.

The ad hoc resettlement process rate assumptions to be applied are:

- i. Known backlog refers to information provided in table below:

Adhoc Type	(AH) Run	Resettlement Period	Formal query count	Billing periods	Ad hoc status July 2021
AH Sequential (1st Iteration)		Oct-2018 to May-2020	Multiple: Settlements and pricing manifest errors	~ 85	In progress, 16 weeks completed out to Jan 2019
AH Targeted		Oct-2018 to May-2020	10	~ 15	M13 will resolve, potential AH solution & timing in review
AH Sequential (2nd Iteration)		Oct-2018 to Jan-2020	19	~ 27	AH solution & timing in review, pending defect fixes & testing
AH Targeted		June-2020 - today	4	~ 2	AH solution & timing in review, pending defect fixes & testing

Table 37 - Ad hoc resettlement backlog as per SEM-21-073