



Regulatory Authority Annual Report

Market Operator Performance

Period: 1st October 2016 to 30th September 2017

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1 Introduction

SONI Ltd. and EirGrid plc, operating as the Single Electricity Market Operator (SEMO) are required under Condition 17 and 10 of their respective Market Operator Licences to provide an annual report to the Regulatory Authorities on Market Operator Performance.

The period covered by this annual report is for financial year 2016/2017 (from 1st October 2016 through to 30th September 2017).

In line with all other reports from SEMO, Quarters will be defined according to the financial year as follows:

- Q1 = 1st October to 31st December
- Q2 = 1st January to 31st March
- Q3 = 1st April to 30th June
- Q4 = 1st July to 30th September

The four main categories of performance metric covered are:

- Manage Change
- Service Delivery
- Manage Stakeholders
- Provide Information

An additional section, providing a review of key areas of the SEM, is also included.

2 Manage Change

2.1 IT Capital Expenditure

2.1.1 IT Capital Expenditure 2016-2017

The section provides a summary of approved capital business cases.

In 2016-17 the Central Market Systems entered maintenance mode as per the preferred Central Market Systems Roadmap, consequently no Capital business cases were progressed in this year.

2.2 System Releases

- **Central Market Systems Releases (01-Oct-2016 – 30-Sep-2017)**

As the Central Market Systems are in Maintenance Mode as per the Agreed Central Market Systems Roadmap there was no release activity during the year.

- **Central Market Systems Roadmap**

As the Central Market Systems are in Maintenance Mode there is no further Roadmap activity.

Any future release requirement (e.g. where an emergency change may be required) can be facilitated under the extended ESA support agreement. The bi-annual release contract came to an end with the SEM R2.8.0 release.

2.3 Modification Management

The tables that follow give an overview of the activity that has taken place between 1st Oct 2016 and 30th Sept 2017. Table 1 and Table 2 show the dates and number of Modifications Committee Meetings that took place over this period

Meeting	Date	Location
70	14 th October 2016	Conference Call
71	9 th December 2016	Conference Call
72	7 th February 2017	Dublin
73	14 th April 2016	Belfast
74	9 th June 2017	Dublin
75	10 th August 2017	Belfast

Table 1: Modifications Committee Meetings

Modification Committee Meetings	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Total
Scheduled meetings	2	1	2	1	6
Other meetings	0	0	0	0	0
Working Groups	0	0	0	0	0

Table 6: Modification Committee Meetings & Working Groups

At the Modifications Committee Meetings, decisions are made with regard to progressing various Modification Proposals. Table 2 and Figure 1 give an outline of the amount of activity that has taken place in each quarter.

Modification Proposal Activity	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Total
Raised	1	2	3	0	6
Alternative Versions raised	1	0	0	0	1
Withdrawn	1	0	1	0	2
Deferred	2	2	0	0	4
Extension Granted	1	0	0	0	1
Recommended for Approval	2	1	3	0	6
Recommended for Rejection	0	0	1	0	1
Further Work Required	0	0	0	0	0
Approved	2	0	3	0	5
Rejected	0	0	3	0	3

Table 2: Modification Proposal Activity

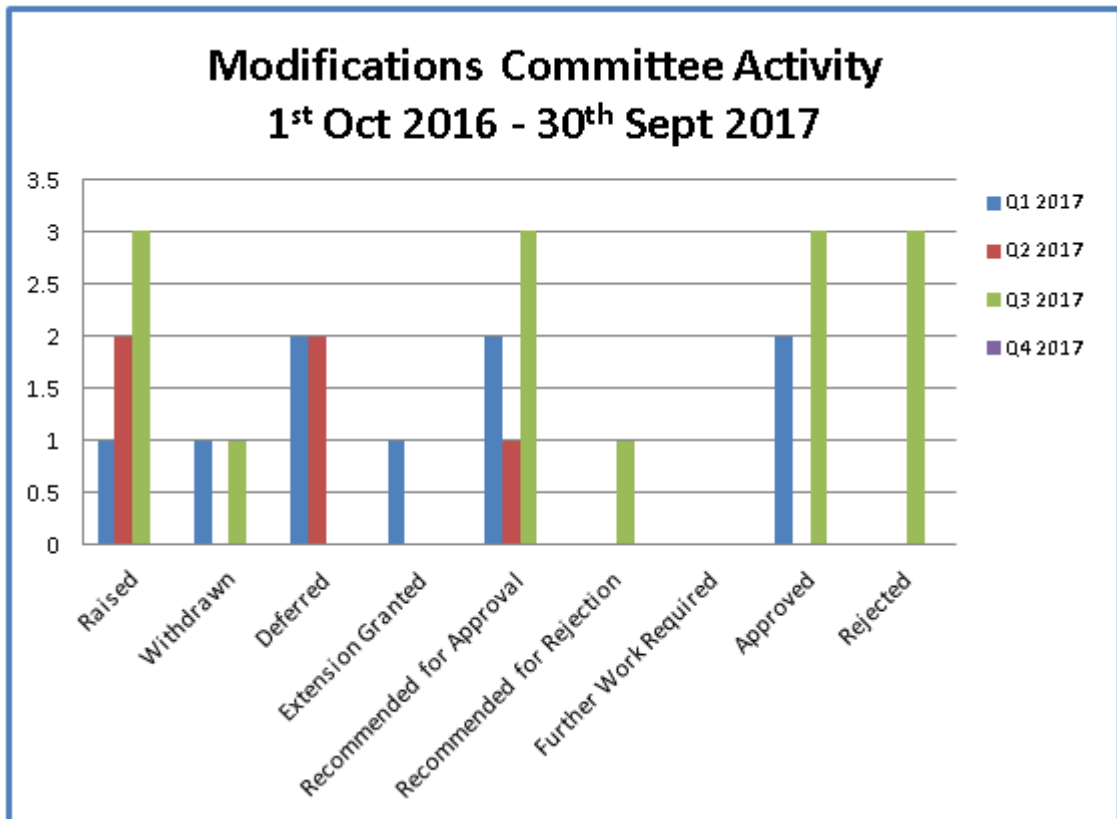


Figure 1 - Modifications Committee Activity

Finally, Table 3 and Figure 2 show the progress made on all the Modification Proposals submitted since the beginning of the SEM in November 2007 and their status at the end of each quarter.

Modification Proposal Status	End Q1 2017	End Q2 2017	End Q3 2017	End Q4 2017
Raised	353	355	358	358
Withdrawn	52	52	53	53
Deferred	1	2	0	0
Recommended for Rejection	3	3	1	1
Recommended for Approval	0	1	3	3
Approved	2	3	0	0
Implemented	279	279	283	283
Rejected	15	15	18	18

Table 3: Modification Proposal Status at end of each Quarter

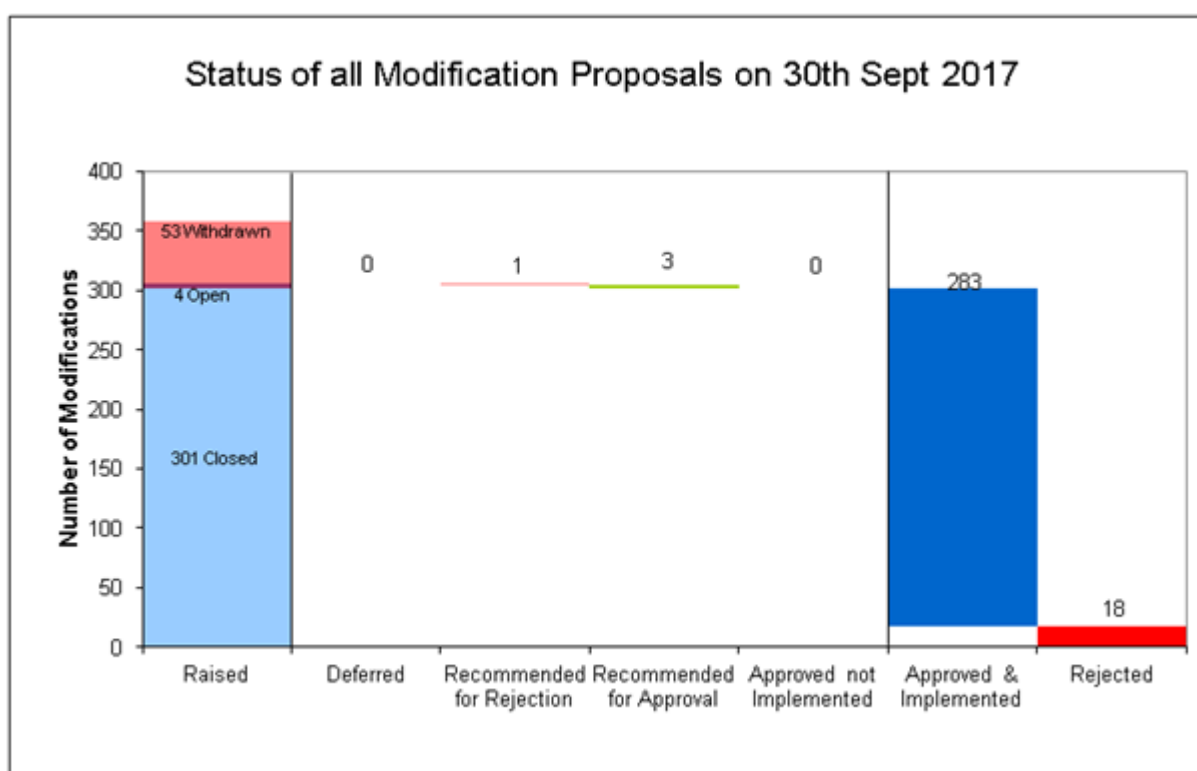


Figure 2 - Status of Modification Proposals from 1st November 2007 to 30th Sept 2017

2.3.1 Publication of the Trading & Settlement Code

Trading & Settlement Code and Agreed Procedures Versions 19.0 and 20.0, were published on the SEMO website on 17th May 2017 and 23rd May 2017. Seven effective Modifications were included in these versions.

2.3.2 2016 - Modifications Committee Elections

Modifications Committee Annual Elections commenced in June with a call for nominations for four expiring positions on the Modifications Committee. The following nominees were elected to the Modifications Committee

Expired Member	New Member	Position
Kevin Hannafin	Kevin Hannafin	Generator
David Connolly	Cormac Daly	Generator
Julie-Anne Hannon	Julie-Anne Hannon	Supplier
William Steele	William Steele	Supplier

Table 4 - Modifications Committee Elections

The election for Chair and Vice-Chair took place in September with Kevin Hannafin (Viridian) returned as Chair and Julie-Anne Hannon (Bord Gais) elected to the position of Vice-Chair.

2.4 Modifications Process Development

Modification Proposals were considered at bimonthly Modifications Committee Meetings alternating between Belfast and Dublin or conference call where applicable (see Table 1).

Full details of all modifications progressed during the year are available in the Modifications section of the SEMO website.

Recommended for Approval

- Mod_03_17 Treatment of Transmission Losses for Trading Sites with Contiguous Autoproducers in I-SEM
- Mod_04_17 Solar in I-SEM
- Mod_05_17 Amendment to the Part B Form of Authority for the purpose of removing the Restricted Authority provision

Approved

- Mod_01_16 Proposal to end M+13 obligations under the TSC following the completion of M+4 resettlement period plus dispute window
- Mod_08_15 Clarification of Outturn Availability
- Mod_01_17 Changes to enable I-SEM (Part A)

Withdrawn

- Mod_04_15 Modification to Relevant Meter Operator Role and Support Requirements for Meter Communication Channels
- Mod_2_16 Changes to MEC for DSU

Recommended for Rejection

- Mod_02_17 Unsecured Bad Energy Debt & Unsecured Bad Capacity Debt Timelines

Rejected

- Mod_09_14 Amendment to Make Whole Payments for Interconnector Units
- Mod_10_14 Make Whole Payments for Interconnector Units
- Mod_12_14 Amendment to Make Whole Mechanism to remove Settlement Periods of simultaneous import and export flows

3 Service Delivery

These metrics indicate how timely SEMO were in producing reports to Market Participants.

3.1 Core Market Operations Function Performance

SEMO is obligated on every day to close the market gate, issue ex-ante indicative schedules and run indicative and initial pricing runs. Every working day SEMO is obliged to issue initial and indicative settlement runs statements.

The following series of graphs shows the percentage of all reports issued in the last year by quarter that were on time, late by less than an hour or late by over an hour. In summary most reports were issued on time or within an hour of the required time. Where initial reports go out over an hour late (infrequent) these still are delivered on the day (less than 3 hours late). The full details of the reasons for the delays are provided in the Monthly Market Operator Reports.

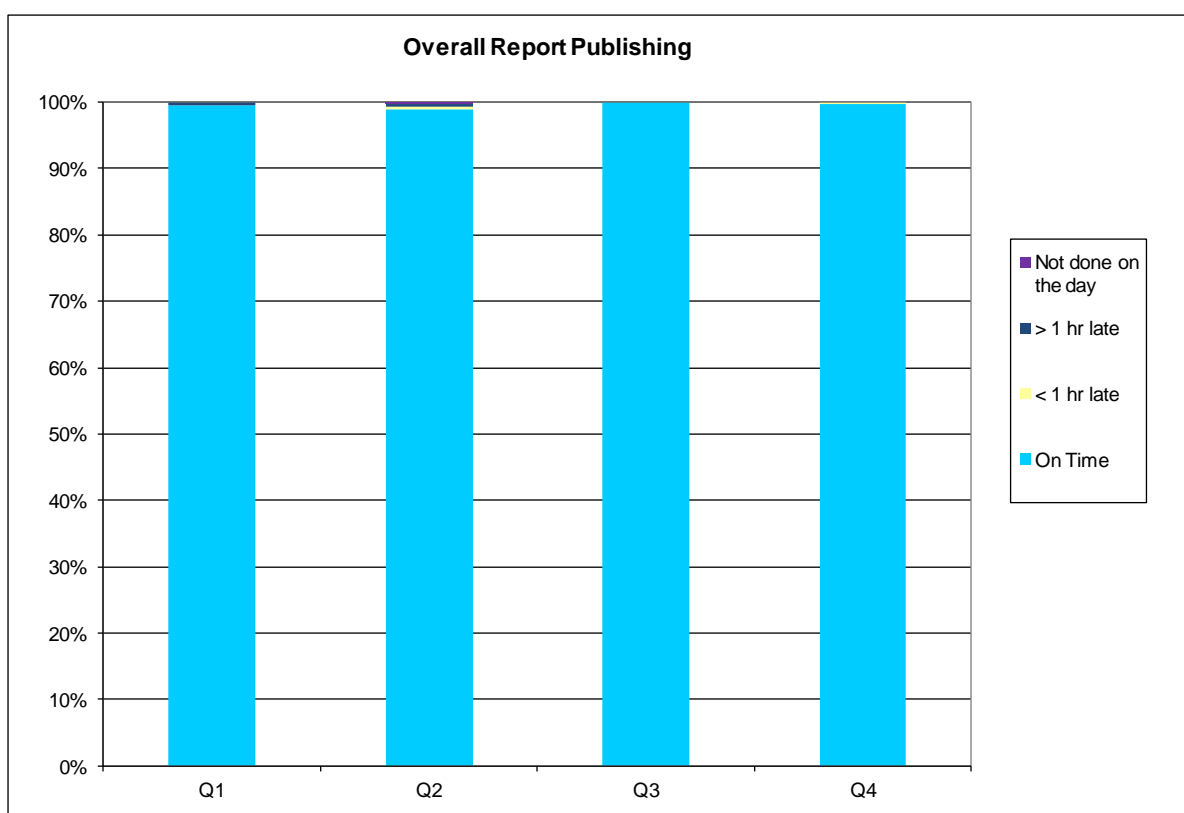


Figure 3 - Overall Daily report publication

Gate closure is a significant market event as all bids and offers are required to be captured at that point.

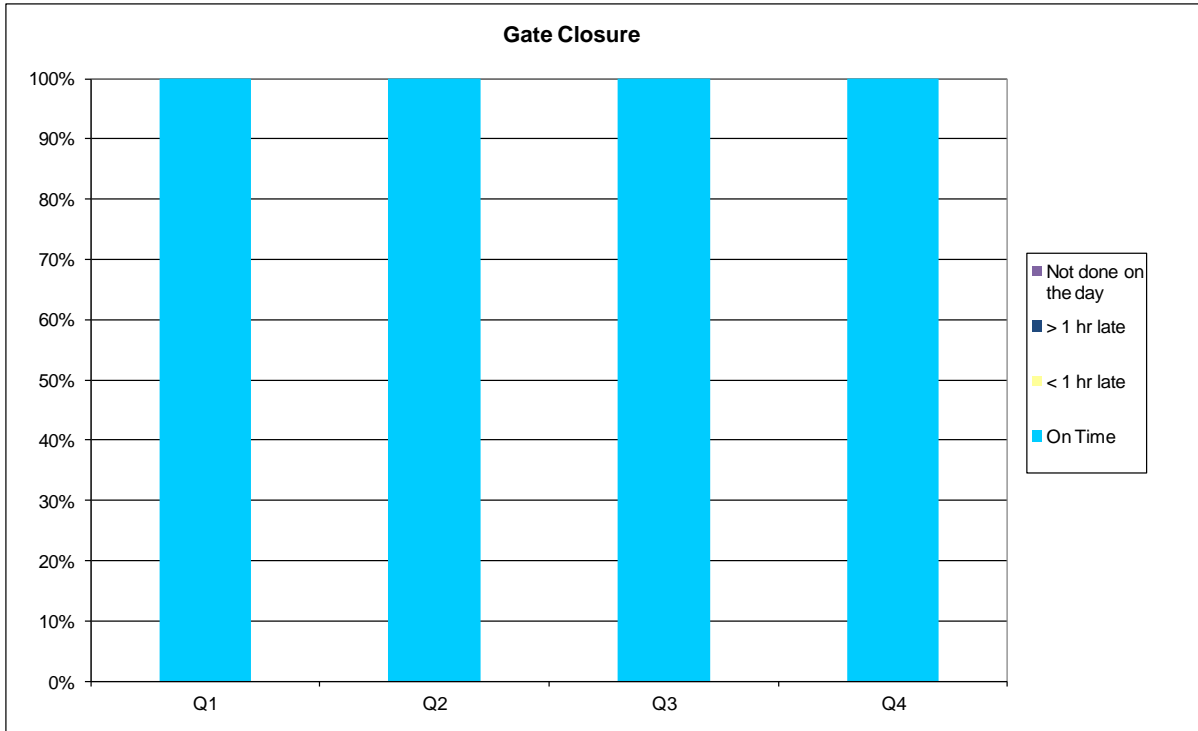


Figure 4 - Gate Closure performance

The initial Pricing and Settlement reports go out on a working day for the relevant calendar day. These reports are used in the final settlement of the market.

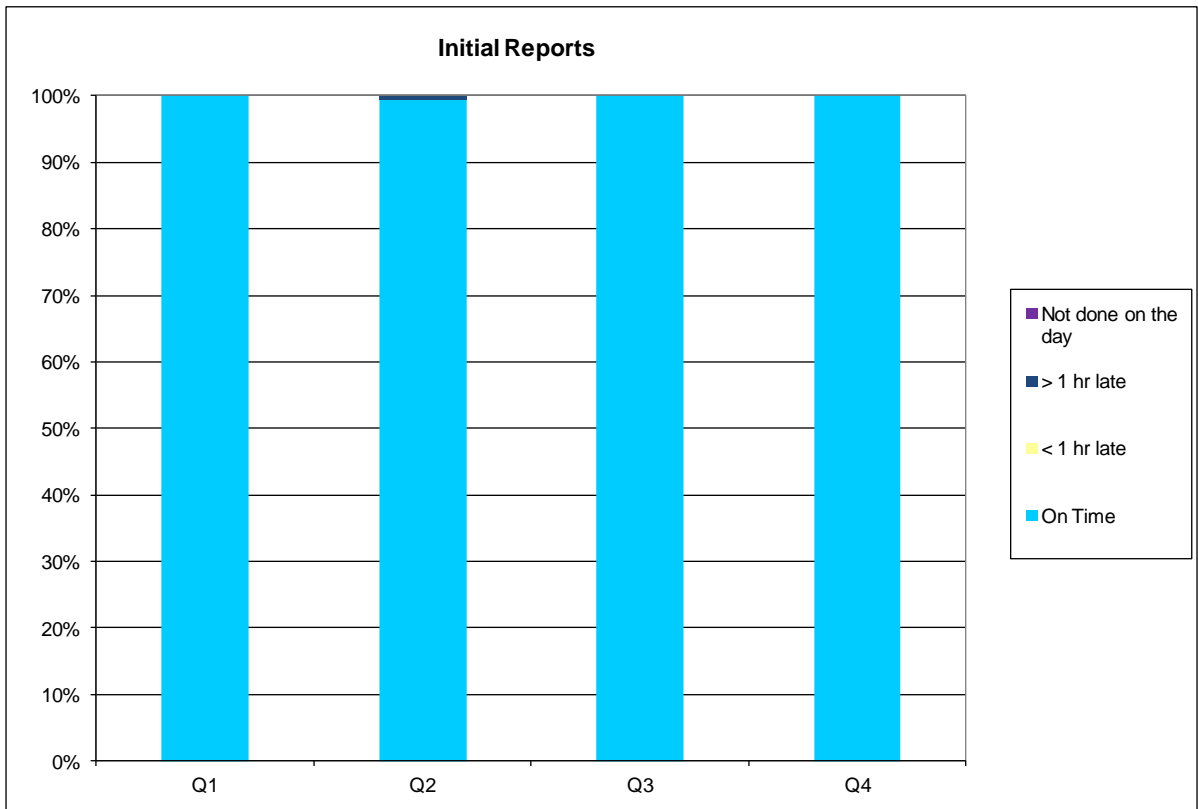


Figure 5 - Initial Report Performance

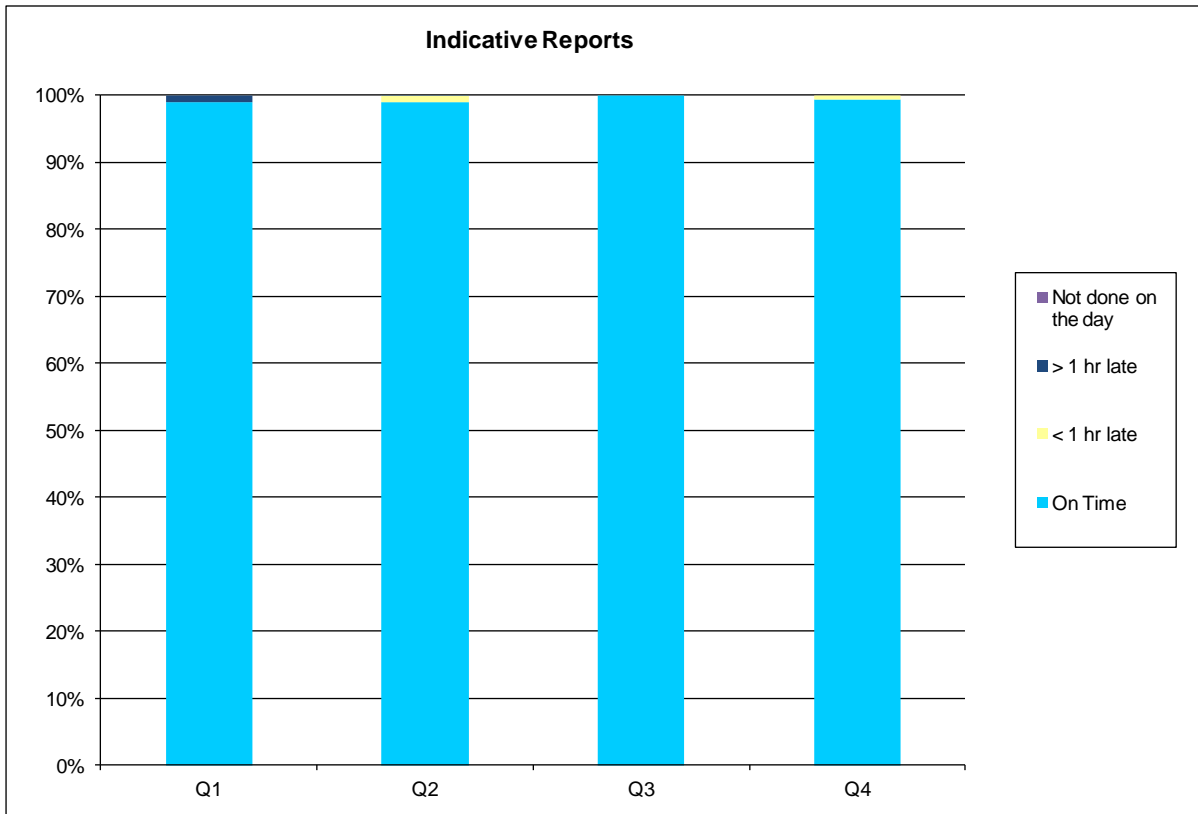


Figure 6 - Performance of Indicative Reports

3.2 Planned Re-Settlement M+4 & M+13

Resettlement occurred on time for the year as scheduled in the Settlement Calendar.

3.3 Ad-hoc Re-Pricing and Ad-hoc Resettlement Runs

There were 2 Ad-hoc re-pricing runs issued during Financial Year 2016 / 2017.

Ad-hoc Resettlements was carried out for 25 events. These were the result of incorrect Meter Data submissions, incorrect Dispatch Instructions or Actual Availabilities being sent by the respective TSO, operational errors by SEMO, as well as system defects.

More detailed narratives of each of these events can be found in the Quarterly reports.

3.4 Administration of Credit Cover

The SEM has been collateralised according to the T&SC provisions for the whole period from 1st October 2016 to 30th September 2017. At times, the collateralisation may be slightly less than the calculated requirement due to the time allowed by the T&SC for Participants to comply with a Credit Cover Increase Notice (CCIN). There was 1 CCIN that was not fully honoured within the two days allowed as per T&SC. However this CCIN was resolved by 5pm the next day.

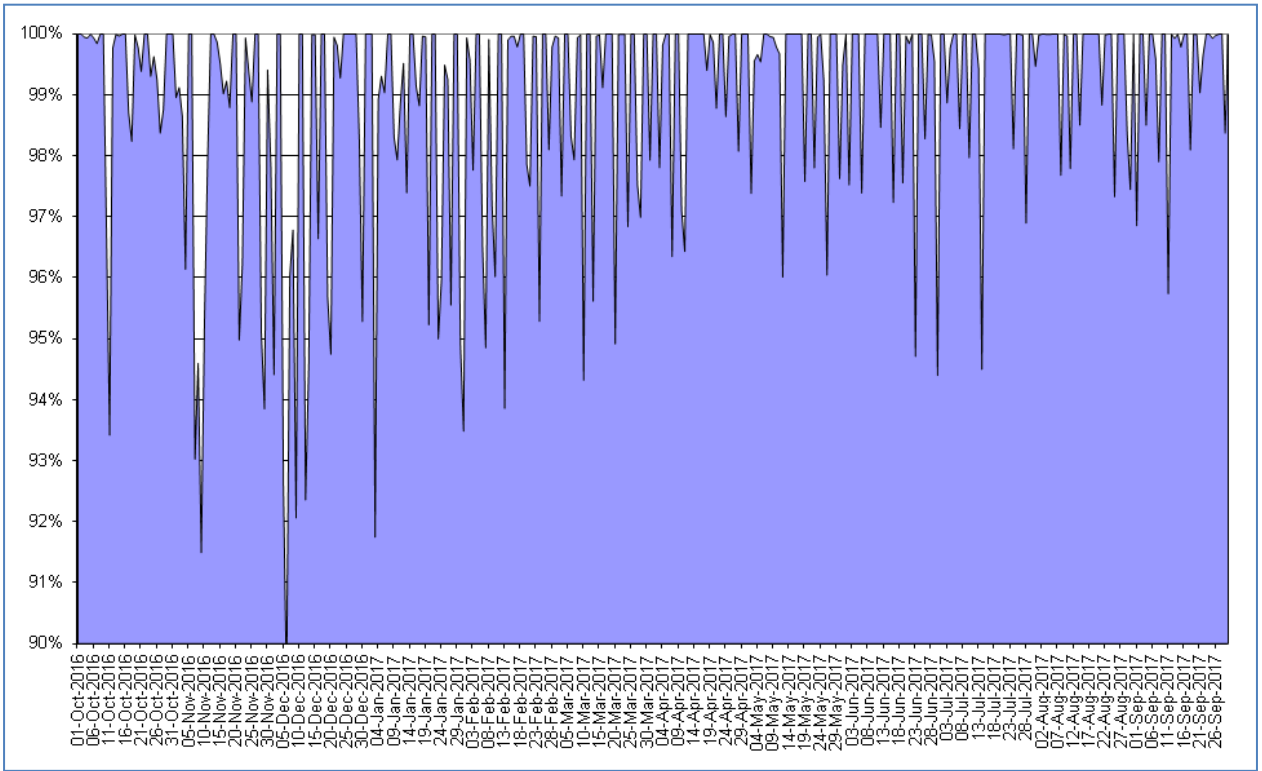


Figure 7 - Market Collateralisation

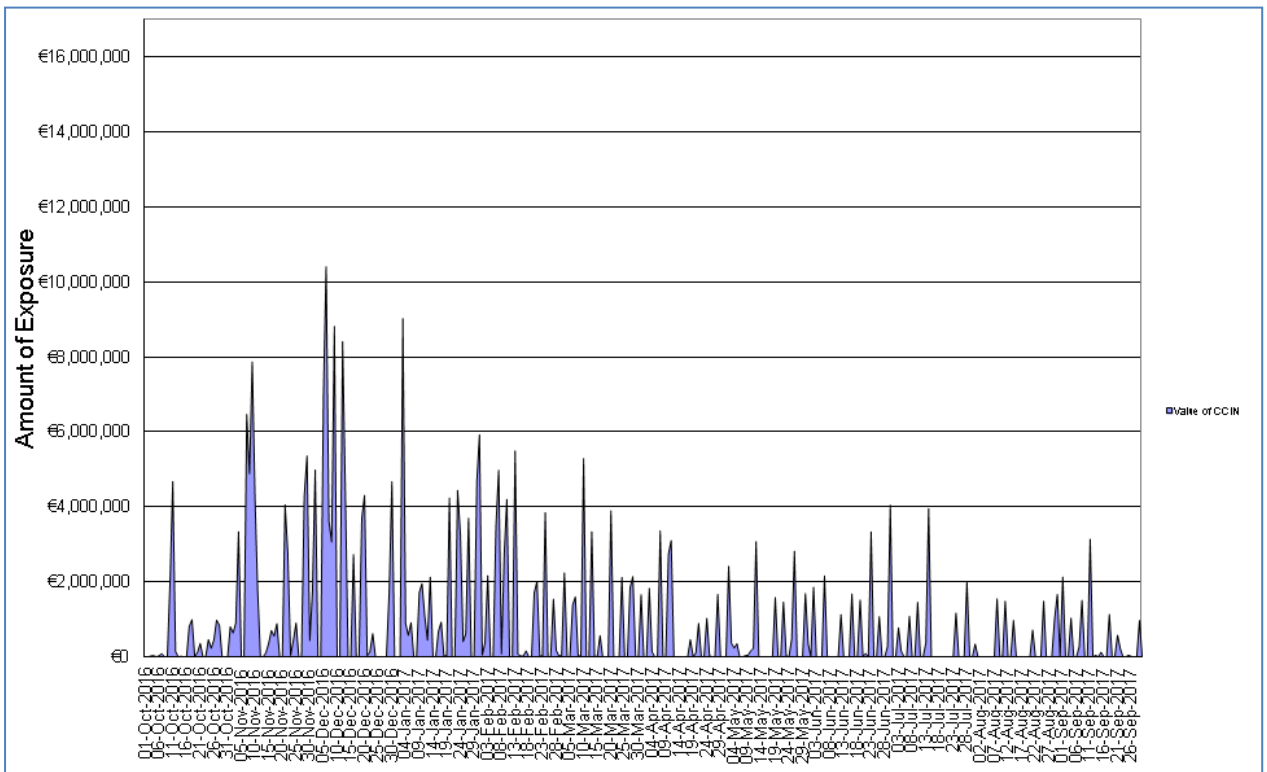


Figure 8 - Credit Cover Increase Notice Amounts per Day

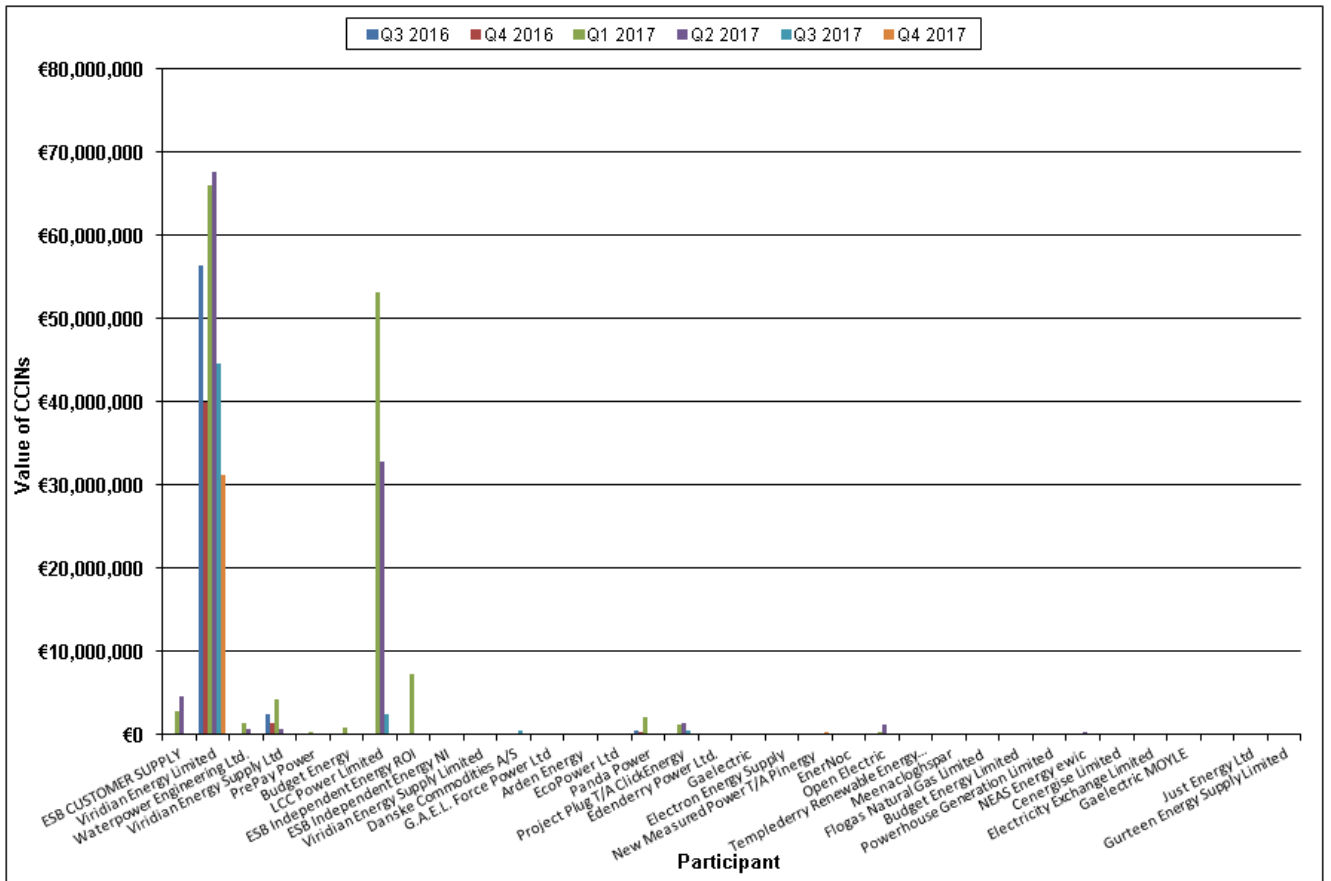


Figure 9 - Total Value of Credit Cover Increases by Participants

3.5 Breaches of the Trading and Settlement Code

SEMO is aware of 297 breaches of the T&SC in the period from 1st October 2016 to 30th September 2017. This is an increase from last year's annual figure of 164 breaches. A breach of the T&SC can range from minor issues like a late receipt of a data feed to major ones like payment defaults leading to suspension from the Market. The breaches in financial year 2016/2017 were at the lesser end of non compliance with no significant breach identified in the period.

In total, SEMO were responsible for 50 of the total breaches. This is an increase compared to last year's figure of 28 SEMO breaches. There were also 263 identified breaches by participants, up 133 from the same period last year.

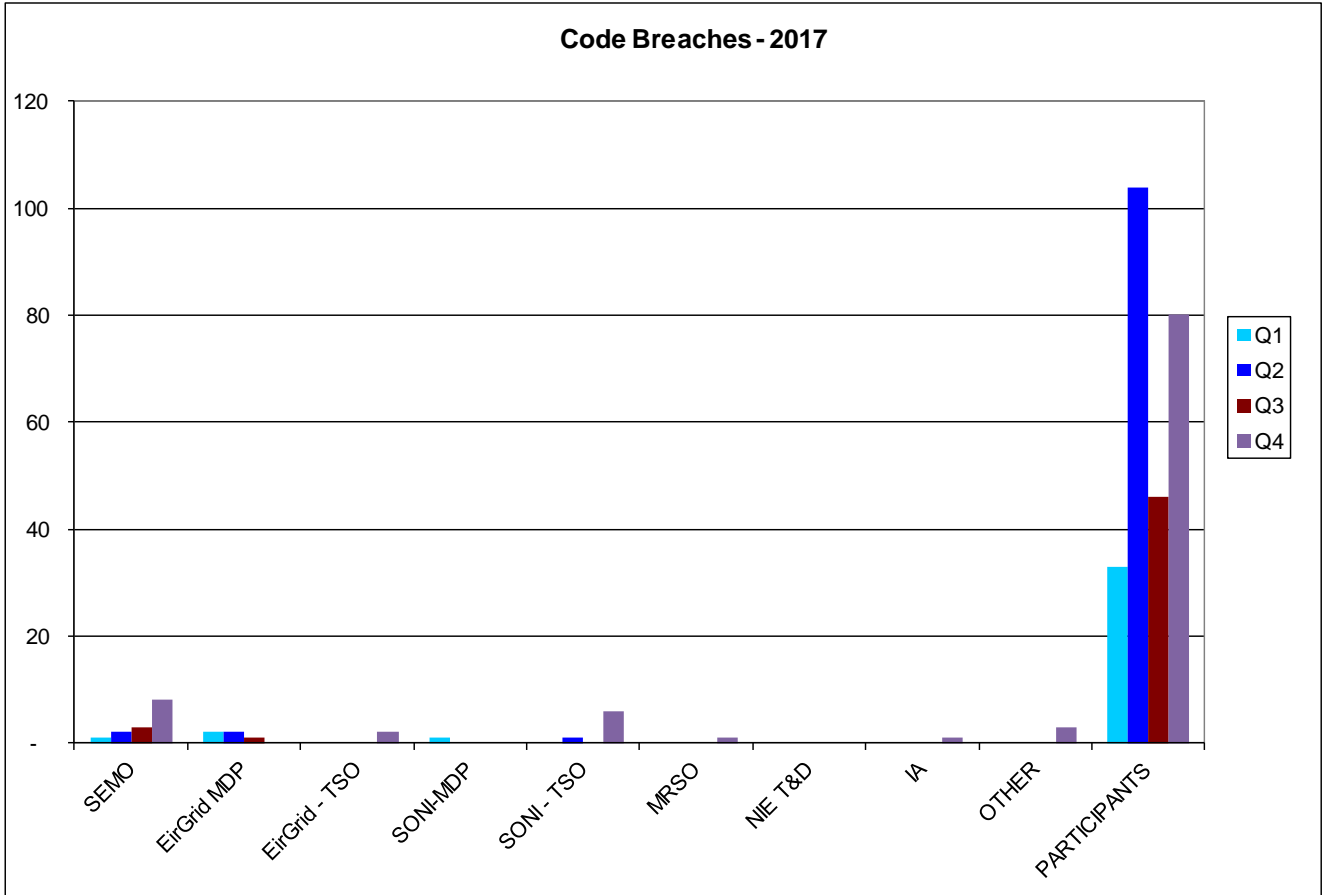


Figure 10- Number of Trading and Settlement Code Breaches

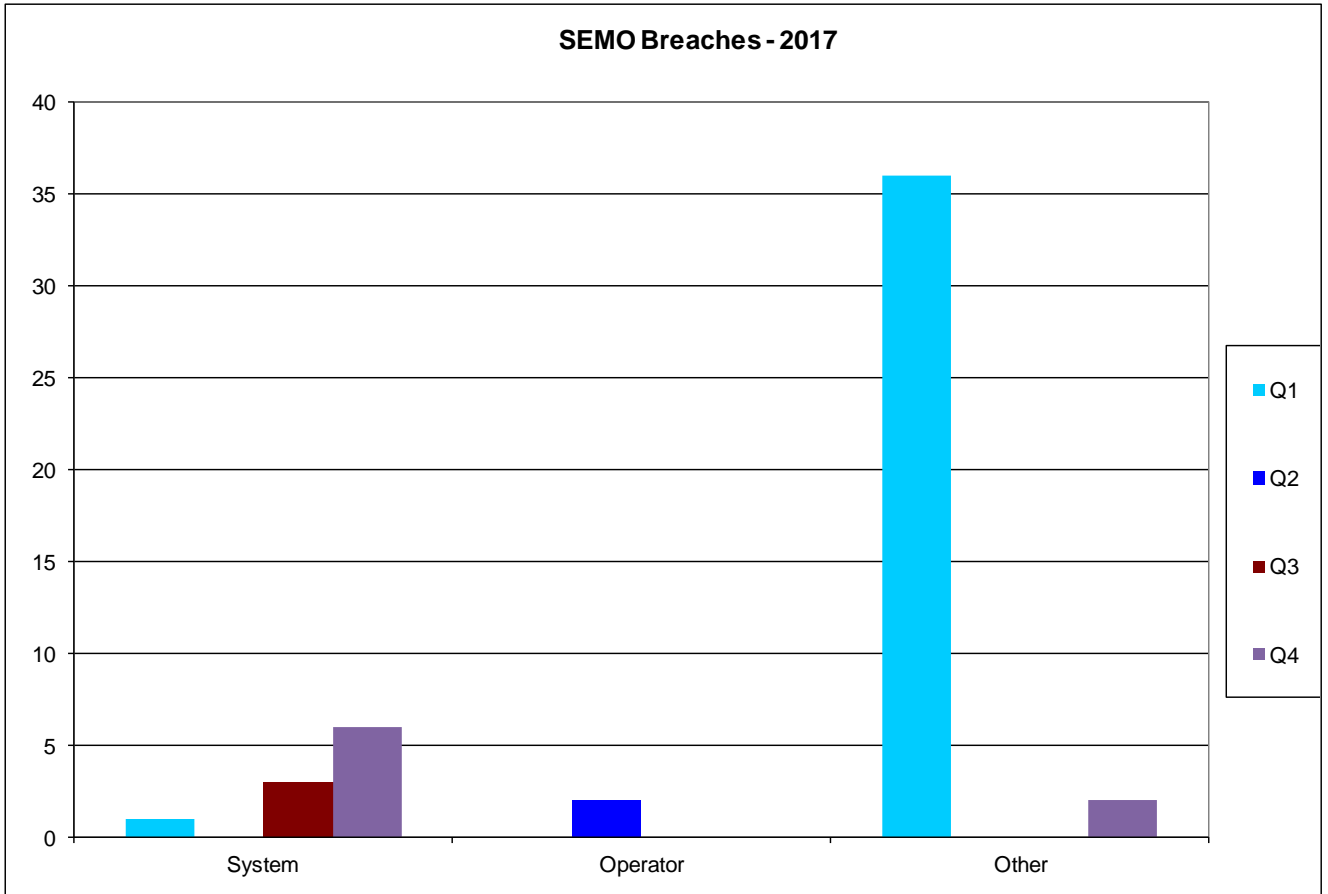


Figure 11 - Source of SEMO Trading and Settlement Code Breaches

4 Manage Stakeholders

4.1 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 2016-2017 are summarised below:

- Market Operator Performance – Monthly, Quarterly and Annual reporting on SEMO operations and financials were issued throughout the year.
- Yearly parameters: MSP Software and Credit Cover parameters issued according T&SC requirements;
- Other reporting obligations –KPI reporting was also provided;
- Collaboration on ad hoc investigations into market outcomes;
- Ongoing collaboration in relation to Guarantees of Origin and Fuel Mix Disclosure including the Green Source Product Verification process;
- Ongoing collaboration in the area of Trading and Settlement Code modification;
- Ongoing collaboration for the delivery of the I-SEM design.

5 Provide Information

The Trading and Settlement Code (T&SC) obligates SEMO to answer formal, data and settlement queries within a given timeframes. In financial year 2016/2017, SEMO has received 70 Formal Queries; all were answered within the timelines prescribed under the T&SC.

General queries have no prescribed timelines for response however SEMO aims to answer these within 15 working days.

5.1 Customer Queries in a timely Manner

5.1.1 Query and Dispute Management:

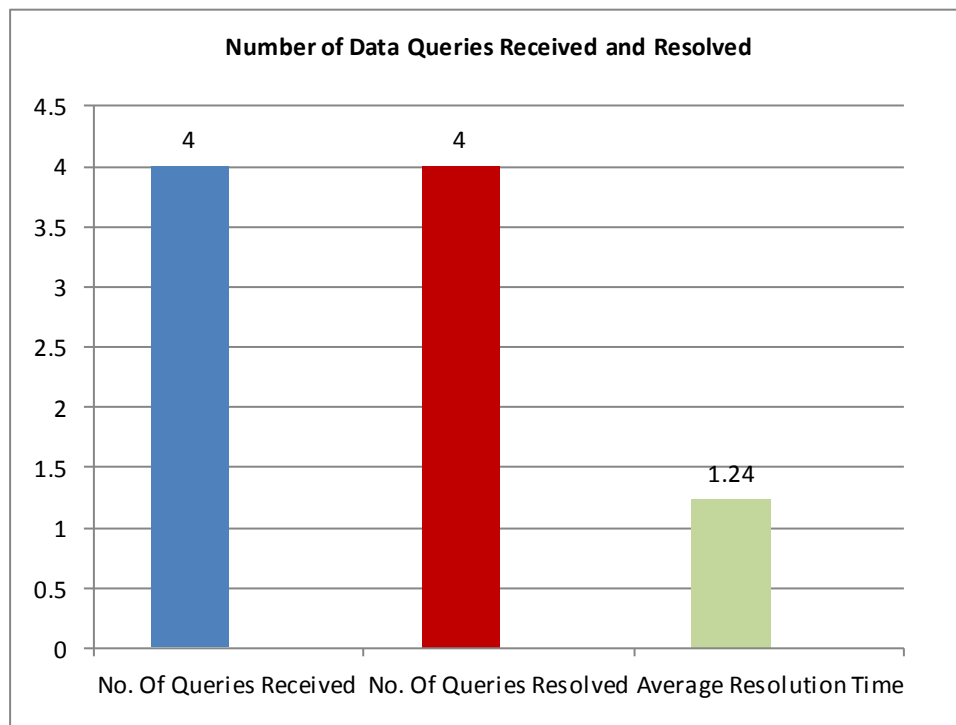


Figure 12 - Number of Data Queries submitted and Resolved up to 30th September 2017

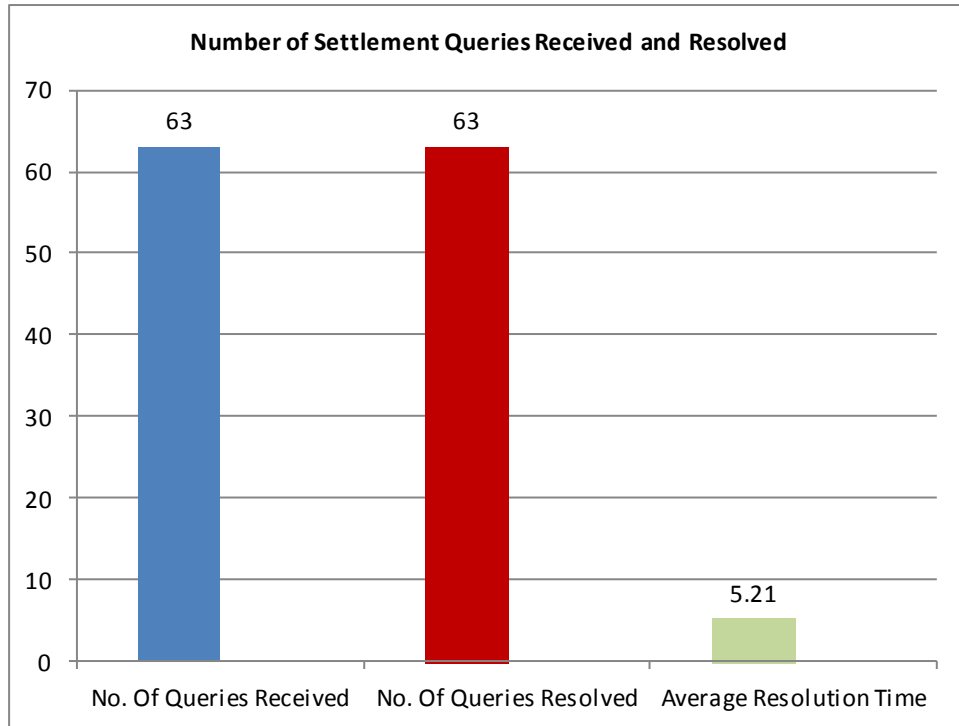


Figure 13 - Number of Settlement Queries submitted and Resolved up to 30th September 2017

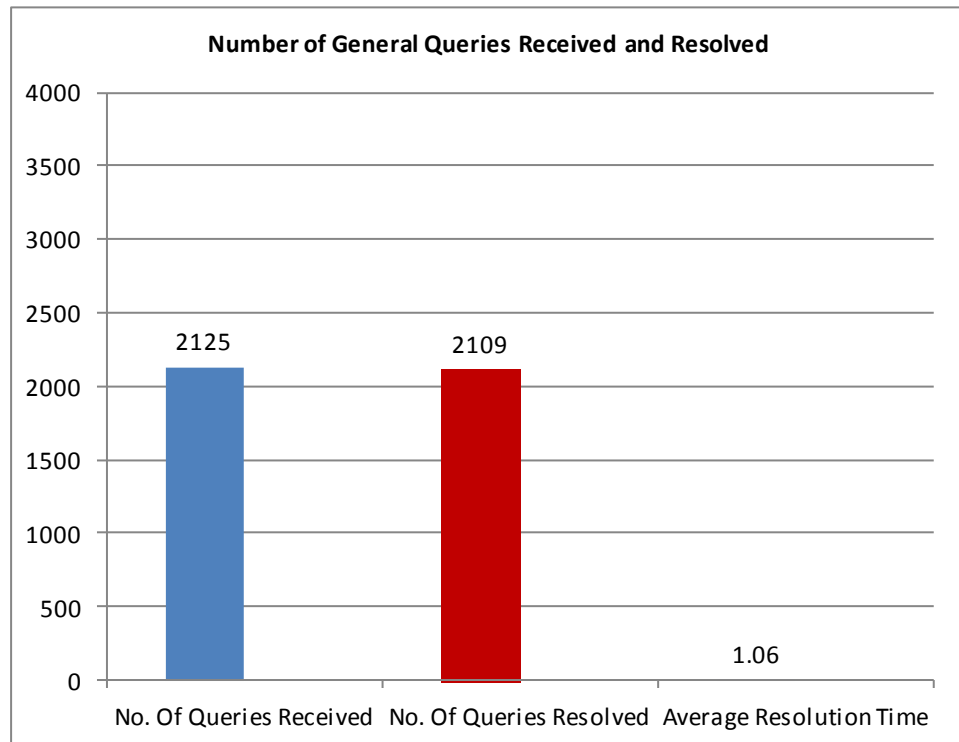


Figure 14 - Number of General Queries Submitted and Resolved up to 30th September 2017

The general query volumes have increased from 1968 submitted in the previous financial year, to 2125 submitted from October 2016 to September 2017 (difference of 157).

- SEMO are proactively engaging with Participants through a number of forums to help reduce the number of general queries submitted.

- A market currently winding down due to ISEM and less change implemented in the last financial year.



Figure 15- Average Working Days to Answer Queries up to 30th September 2017

Further commentary on the Formal Queries is provided in section 6.1.

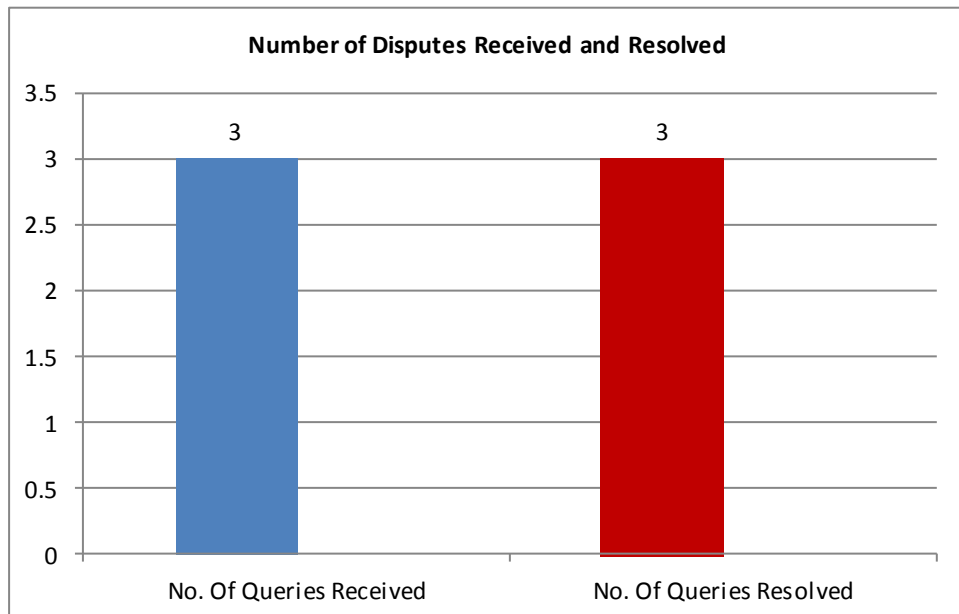


Figure 16 - 2 Formal Disputes between 1st October 2016 and 30th September 2017, all of which were resolved as of 08th of August 2017.

5.2 Facilitate and Educate participants to accede to the Code

Since 01st October 2016, the following participants have registered in the market.

Party ID	Party Name / Participant Name	Jurisdiction	Effective Date
PY_000165	Glencarbry Supply Company Limited	ROI	19/10/2016
PY_000166	Megawatts Power Trading Limited	ROI	19/10/2016
PY_000167	Pallas Energy Supply Limited	ROI	08/11/2016
PY_000168	Brookfield Green Energy NI Limited	NI	08/11/2016
PY_000169	Budget Energy Limited (ROI)	ROI	30/11/2016
PY_000162	Lir Energy Limited	ROI	07/02/2017
PY_000171	ElectroRoute Energy Supply Limited	ROI	18/03/2017
PY_000172	Lightfield Limited	ROI	29/03/2017
PY_000174	Just Energy (Ireland) Limited	ROI	15/05/2017
PY_000175	EDF TRADING LTD	UK	15/05/2017
PY_000173	Shamrock Energy Supply Limited	ROI	18/05/2017
PY_000182	Bally Wind Supply Limited	ROI	18/05/2017
PY_000183	Teevurcher Supply Limited	ROI	18/05/2017
PY_000178	Harp Energy Supply Limited	ROI	19/05/2017
PY_000180	F&S Energy Limited	UK	23/05/2017
PY_000176	Ronaver Energy Supply Limited	ROI	26/05/2017
PY_000177	Oak Energy Supply Limited	ROI	26/05/2017
PY_000184	ElectroRoute Energy Supply NI Limited	NI	07/07/2017
PY_000185	Rathmacan Trading Limited	ROI	16/08/2017
PY_000186	Beal na mBlath Power Trading Limited	ROI	16/08/2017
PY_000187	Centrica Energy Limited	UK	16/08/2017
PY_000188	Ballycumber Power Supply Limited	ROI	16/08/2017
PY_000190	Plum Energy Supply Limited	ROI	29/08/2017
PY_000191	Brookfield Renewable Supply 4 Limited	ROI	28/09/2017

PY_000164	Glanaruddery Energy Supply Limited	ROI	20/10/2017
PY_000189	Energi Danmark A/S	EU	26/10/2017

Table 10 - Party Registrations

Since 1st October 2016, additional generation or supply units have been added to the following participants.

Party	Unit ID	Jurisdiction	Unit Name	Effective Date
PY_000126_Wirelite Sensors Ltd	DSU_401910	ROI	Endeco DSU2	11/04/2017
PY_000021_Viridian Energy Limited	DSU_402040	ROI	VEL DSU	26/09/2017
PY_000114_Electricity Exchange Limited	DSU_402090	ROI	EE-SSE DSU	05/09/2017
PY_000114_Electricity Exchange Limited	DSU_402100	ROI	Electricity Exchange DSU 3	05/09/2017
PY_000114_Electricity Exchange Limited	DSU_402120	ROI	Electricity Exchange DSU 4	05/09/2017
PY_000165_Glencarbry Supply Company Limited	GU_401970	ROI	Glencarbry Windfarm	15/11/2016
PY_000021_Viridian Energy Limited	GU_402010	ROI	Ballybane Windfarm	04/04/2017
PY_000185_Rathmacan Trading Limited	GU_402140	ROI	Ballybay Windfarm	05/09/2017
PY_000046_ESB Independent Energy ROI Generation	GU_402150	ROI	Cappawhite Windfarm	29/08/2017
PY_000132_Cnoc Energy Supply Limited	GU_411670	ROI	Cnoc Generation Netting Generator Unit	26/09/2017
PY_000021_Bord Gais Energy Supply	GU_411890	ROI	Grove Hill Windfarm Netting Generator Unit	08/11/2016
PY_000021_Sliabh Bawn Supply Designated Activity Company	GU_411900	ROI	Sliabh Bawn Supply Designated Activity Company Netting Generator Unit	25/10/2016
PY_000126_Wirelite Sensors Ltd	GU_411910	ROI	Endeco DSU2 Netting Generator Unit	11/04/2017
PY_000160_Dunman Energy Supply Limited	GU_411950	ROI	Killaveenoge Windfarm ROI Limited Netting	13/12/2016

			Generator Unit	
PY_000021_SSE Airtricity Limited	GU_411960	ROI	Uggool Windfarm	25/10/2016
PY_000165_Glencarbry Supply Company Limited	GU_411970	ROI	Glencarbry Windfarm Netting Generator Unit	15/11/2016
PY_000021_SSE Airtricity Limited	GU_411990	ROI	Seecon Wind Farm Netting Generator Unit	18/04/2017
PY_000021_Viridian Energy Limited	GU_412010	ROI	Ballybane Windfarm Netting Generator Unit	04/04/2017
PY_000163_Gaelectric Sustainable Energy Supply 2 Limited	GU_412020	ROI	Beam Windfarm Netting Generator Unit	31/01/2017
PY_000152_Dublin Waste to Energy Supply Limited	GU_412030	ROI	Dublin Waste to Energy Netting Generator Unit	13/06/2017
PY_000021_Viridian Energy Limited	GU_412040	ROI	VEL DSU Netting Generator Unit	26/09/2017
PY_000054_Vayu Limited	GU_412050	ROI	Tullabrack Energy Netting Generator Unit	18/07/2017
PY_000030_ESB PGEN	GU_412080	ROI	Moneypoint Windfarm Netting Generator Unit	13/06/2017
PY_000114_Electricity Exchange Limited	GU_412090	ROI	Electricity Exchange DSU1 Netting Generator Unit	05/09/2017
PY_000114_Electricity Exchange Limited	GU_412100	ROI	Electricity Exchange DSU2 Netting Generator Unit	05/09/2017
PY_000114_Electricity Exchange Limited	GU_412120	ROI	Electricity Exchange DSU3 Netting Generator Unit	05/09/2017
PY_000185_Rathmacan Trading Limited	GU_412140	ROI	Ballybay Windfarm Netting Generator Unit	05/09/2017
PY_000046_ESB Independent Energy ROI Generation	GU_412150	ROI	Cappawhite Windfarm Netting Generator Unit	29/08/2017
PY_000159_TrailStone GmbH	PT_400188_I_ROIEWIC	ROI	Trailstone GmbH	26/01/2017

PY_000172_Lightfield Limited	PT_400201_I_ROIEWIC	ROI	Lightfield Limited	25/07/2017
PY_000021_Sliabh Bawn Supply Designated Activity Company	SU_400194	ROI	Sliabh Bawn Supply Designated Activity Company	25/10/2016
PY_000126_Wirelite Sensors Limited	SU_400195	ROI	Endeco DSU2	11/04/2017
PY_000021_Meenacloghspar (Wind) Supply Limited	SU_400198	ROI	Meenacloghspar (Wind) Supply Limited	08/11/2016
PY_000157_Gurteen Energy Supply Limited	SU_400201	ROI	Gurteen Energy Supply Limited	27/06/2017
PY_000165_Glencarbry Supply Company Limited	SU_400202	ROI	Glencarbry Supply Company Limited	15/11/2016
PY_000021_Lantanier Limited	SU_400204	ROI	Lantanier Limited	08/11/2016
PY_00016_Gaelectric Sustainable Energy Supply 2 Ltd	SU_400205	ROI	Gaelectric Sustainable Energy Supply 2	13/12/2016
PY_000169_Budget Energy Ireland (ROI)	SU_400206	ROI	Budget Energy Limited (ROI)	06/12/2016
PY_000152_Dublin Waste To Energy Supply Limited	SU_400207	ROI	Dublin Waste To Energy Supply	13/06/2017
PY_000171_ElectroRoute Energy Supply Limited	SU_400208	ROI	ElectroRoute Energy Supply	25/04/2017
PY_000043_Viridian Energy Limited	SU_400209	ROI	VEL TSSU2	26/09/2017
PY_000054_Vayu Supply	SU_400210	ROI	Vayu	19/07/2017
PY_000114_Electricity Exchange Limited	SU_400213	ROI	EE-SSE TSSU	05/09/2017
PY_000114_Electricity Exchange Limited	SU_400214	ROI	Electricity Exchange TSSU 3	05/09/2017
PY_000114_Electricity Exchange Limited	SU_400215	ROI	Electricity Exchange TSSU 4	05/09/2017
PY_000174_Just Energy (Ireland) Limited	SU_400216	ROI	Just Energy (Ireland)	29/08/2017
PY_000185_Rathmacan Trading Limited	SU_400217	ROI	Rathmacan ROI Trading Ltd	05/09/2017
PY_000186_Beal na mBlath	SU_400219	ROI	Beal na mBlath	12/09/2017
PY_000109_AC Automation UK Ltd	DSU_501200	NI	AC AUTOMATION DSU	10/01/2017
PY_000126_Endeco Technologies Ltd	DSU_501460	NI	Endeco DSU3	10/01/2017
PY_000113_Energy Trading	DSU_501510	NI	ETI DSU2	27/06/2017

Ireland Limited				
PY_000128_Powerhouse Generation Limited	DSU_501560	NI	Powerhouse NI DSU	31/01/2017
PY_000144_Gaelectric Green Energy Limited	GU_501410	NI	Corby Knowe Windfarm	28/03/2017
PY_000085_Hunters Hill	GU_501430	NI	Hunters Hill Windfarm Ltd - Crockdun Site	01/08/2017
PY_000085_Hunters Hill	GU_501440	NI	Hunters Hill Windfarm Ltd - Eglishe Site	07/03/2017
PY_000144_Gaelectric Green Energy Limited	GU_501480	NI	Cregganconroe Windfarm	31/01/2017
PY_000144_Gaelectric Green Energy Limited	GU_501490	NI	Inishative Windfarm	25/04/2017
PY_000021_SSE Airtricity Energy Supply NI Ltd	GU_501500	NI	Tievenameenta Wind Farm	17/11/2016
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_501520	NI	Ora More Windfarm	08/12/2016
PY_000042_Viridian Energy Supply Ltd	GU_501530	NI	Gortfinbar Windfarm	07/02/2017
PY_000042_Viridian Energy Supply Ltd	GU_501540	NI	Long Mountain Windfarm Limited	31/01/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_501550	NI	Slieve Divena Wind Farm	28/03/2017
PY_000042_Viridian Energy Supply Ltd	GU_501570	NI	Altamuskin Windfarm	25/04/2017
PY_000168_Brookfield Green Energy NI Limited	GU_501580	NI	Crockandun Windfarm	02/05/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_501620	NI	Altaveedan Wind Farm	13/06/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_501630	NI	Rasharkin	25/04/2017
PY_000168_Brookfield Green Energy NI Ltd	GU_501640	NI	Shantavany Scotch Wind Farm	23/05/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_501650	NI	Lough Road	25/04/2017
PY_000035_NIE Supply Generation	GU_501660	NI	WEL Solar Park 15 Ltd	23/05/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_501670	NI	Brockaghboy Windfarm	12/09/2017
PY_000109_AC Automation UK Ltd	GU_511200	NI	AC AUTOMATION Netting Generator Unit	10/01/2017
PY_000144_Gaelectric Green Energy Limited	GU_511410	NI	Corby Knowe Windfarm Netting Generator Unit	28/03/2017

PY_000085_Hunters Hill	GU_511430	NI	Hunters Hill Windfarm Ltd - Crockdun Site Netting Generator Unit	01/08/2017
PY_000085_Hunters Hill	GU_511440	NI	Hunters Hill Windfarm Ltd - Eglisk Site Netting Generator Unit	07/03/2017
PY_000126_Endeco Technologies Ltd	GU_511460	NI	Endeco DSU3 Netting Generator Unit	10/01/2017
PY_000144_Gaelectric Green Energy Limited	GU_511480	NI	Cregganconroe Windfarm Limited Netting Generator Unit	31/01/2017
PY_000144_Gaelectric Green Energy Limited	GU_511490	NI	Inishative Windfarm	25/04/2017
PY_000021_SSE Airtricity Energy Supply NI Ltd	GU_511500	NI	Tievenameenta Wind Farm Netting Generator Unit	17/11/2016
PY_000113_Energy Trading Ireland Limited	GU_511510	NI	ETI DSU2 Netting Generator Unit	27/06/2017
PY_000021_SSE Airtricity Energy Supply NI Ltd	GU_511520	NI	Ora More Windfarm Netting Generator Unit	08/12/2016
PY_000042_Viridian Energy Supply Ltd	GU_511530	NI	Gortfinbar Windfarm Netting Generator Unit	07/02/2017
PY_000042_Viridian Energy Supply Ltd	GU_511540	NI	Long Mountain Windfarm Limited Netting Generator Unit	31/01/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_511550	NI	Slieve Divena Wind Farm Netting Generator Unit	28/03/2017
PY_000128_Powerhouse Generation Limited	GU_511560	NI	Powerhouse NI DSU Netting Generator Unit	31/01/2017
PY_000042_Viridian Energy Supply Ltd	GU_511570	NI	Altamuskin Windfarm Netting Generator Unit	25/04/2017
PY_000168_Brookfield Green Energy NI Limited	GU_511580	NI	Crockandun Windfarm	02/05/2017

			Netting Generator Unit	
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_511620	NI	Altaveedan Wind Farm Netting Generator Unit	13/06/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_511630	NI	Rasharkin Netting Generator Unit	25/04/2017
PY_000021_Brookfield Green Energy NI Ltd	GU_511640	NI	Shantavany Scotch Wind Farm Netting Generator Unit	23/05/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_511650	NI	Lough Road Netting Generator Unit	25/04/2017
PY_000021_NIE Supply Generation	GU_511660	NI	WEL Solar Park 15 Ltd Netting Generator Unit	23/05/2017
PY_000022_SSE Airtricity Energy Supply NI Ltd	GU_511670	NI	Brockaghboy Windfarm Netting Generator Unit	12/09/2017
PY_000159_TrailStone GmbH	PT_500107_I_NIMOYLE	NI	TrailStone GmbH	26/01/2017
PY_000146_Captured Carbon Limited	PT_500112_I_NIMOYLE	NI	Captured Carbon Limited	25/04/2017
PY_000172_Lightfield Limited	PT_500120_I_NIMOYLE	NI	Lightfield Limited	25/07/2017
PY_000109_AC Automation UK Ltd	SU_500078	NI	AC AUTOMATION TSSU	10/01/2017
PY_000144_Gaelectric Green Energy Limited	SU_500083	NI	Gaelectric Green Energy Limited	17/01/2017
PY_000126_Endeco Technologies	SU_500086	NI	Endeco DSU3	10/01/2017
PY_000113_Energy Trading Ireland	SU_500088	NI	ETI TSSU2	27/06/2017
PY_000128_Powerhouse Generation Limited	SU_500089	NI	Powerhouse NI DSU	31/01/2017
PY_000132_Cnoc Energy Supply Limited	GU_401670	ROI	Cnoc Windfarms	26/09/2017
PY_000027_Bord Gais Energy Supply	GU_401890	ROI	Grove Hill Windfarm	08/11/2016
PY_000021_Sliabh Bawn Supply Designated Activity Company	GU_401900	ROI	Sliabh Bawn Windfarm	25/10/2016
PY_000160_Dunman Energy Supply Limited	GU_401950	ROI	Killaveenoge Windfarm	13/12/2016
PY_000021_SSE Airtricity Limited	GU_401960	ROI	Uggool Windfarm	25/10/2016

PY_000021_SSE Airtricity Limited	GU_401990	ROI	Seecon Wind Farm	18/04/2017
PY_000163_Gaelectric Sustainable Energy Supply 2 Limited	GU_402020	ROI	Beam Windfarm	31/01/2017
PY_000152_Dublin Waste to Energy Supply Limited	GU_402030	ROI	Dublin Waste to Energy	13/06/2017
PY_000054_Vayu Limited	GU_402050	ROI	Tullabrack Windfarm	19/07/2017
PY_000030_ESB PGEN	GU_402080	ROI	Moneypoint Windfarm	13/06/2017

Table 11 - Unit Registrations

Since 1st October 2016, the following units have de-registered or had a change in classification type

Party ID	Party Name / Participant Name	Unit ID	Type of Registration	Jurisdiction	Generation or Supply	Effective Date
PY_000021	PT_400021_SSE Airtricity Limited	GU_401960	Unit Type Change – APTG - VPTG	ROI	Generation	18/07/2017
PY_000021	PT_400021_SSE Airtricity Limited	GU_401990	Unit Type Change – APTG - VPTG	ROI	Generation	10/10/2017
PY_000043	PT_400050_Viridian Energy Limited	GU_401920	Unit Type Change – APTG - VPTG	ROI	Generation	21/03/2017
PY_000043	PT_400050_Viridian Energy Limited	GU_401930	Unit Type Change – APTG - VPTG	ROI	Generation	28/03/2017
PY_000043	PT_400050_Viridian Energy Limited	GU_402010	Unit Type Change – APTG - VPTG	ROI	Generation	02/05/2017
PY_000142	PT_400165_DWL Energy Supply Limited	GU_401840	Unit Type Change – APTG - VPTG	ROI	Generation	27/06/2017

Party ID	Party Name / Participant Name	Unit ID	Type of Registration	Jurisdiction	Generation or Supply	Effective Date
PY_000153	PT_400178 _Sliabh Bawn Supply Designated Activity Company	GU_401900	Unit Type Change – APTG – VPTG	ROI	Generation	04/07/2017
PY_000022	PT_500021 _SSE Airtricity Energy Supply NI Ltd	GU_501500	Unit Type Change – APTG – VPTG	NI	Generation	25/04/2017
PY_000022	PT_500021 _SSE Airtricity Energy Supply NI Ltd	GU_501520	Unit Type Change – APTG – VPTG	NI	Generation	25/04/2017
PY_000022	PT_500021 _SSE Airtricity Energy Supply NI Ltd	GU_501620	Unit Type Change – APTG – VPTG	NI	Generation	10/10/2017
PY_000022	PT_500021 _SSE Airtricity Energy Supply NI Ltd	GU_501630	Unit Type Change – APTG – VPTG	NI	Generation	10/10/2017
PY_000042	PT_500032 _Viridian Energy Supply Ltd	GU_501530	Unit Type Change – APTG – VPTG	NI	Generation	25/04/2017
PY_000042	PT_500032 _Viridian Energy Supply Ltd	GU_501540	Unit Type Change – APTG – VPTG	NI	Generation	23/05/2017

Party ID	Party Name / Participant Name	Unit ID	Type of Registration	Jurisdiction	Generation or Supply	Effective Date
PY_000042	PT_500032 _Viridian Energy Supply Ltd	GU_501570	Unit Type Change – APTG - VPTG	NI	Generation	23/05/2017
PY_000085	PT_500050 _Hunters Hill	GU_501440	Unit Type Change – APTG - VPTG	NI	Generation	26/09/2017
PY_000134	PT_500082 _Open Electric Limited	SU_500081	De-Registration	NI	Supply	21/03/2017
PY_000021	PT_400021 _SSE Airtricity Limited	GU_401600	De-Registration	ROI	Generation	31/01/2017

Table 12 - Deregistration or Changes of Status

5.3 Facilitate Interaction with Customers

5.3.1 Stakeholder Events

SEMO is proactive in interaction with its stakeholders. In the past 12 months SEMO have organised/facilitated in:

- 4 Market Operator User Groups Conference Calls (MOUGs Conference Calls)
- Facilitated Participant Readiness calls for new Market Participants as required
- SEM registration have hosted 7 new participant SEM Overview & training sessions

6 SEM Review

6.1 Formal Queries

Since Market go live in Nov 2007, SEM has observed a continuing reduction in the volume of queries submitted by Participants until financial year 2010/2011. At that point, the number of Formal Queries started to increase again and until reverting to 2010 level within 2015/2016 with continued reduction, as per Figure 7 below.

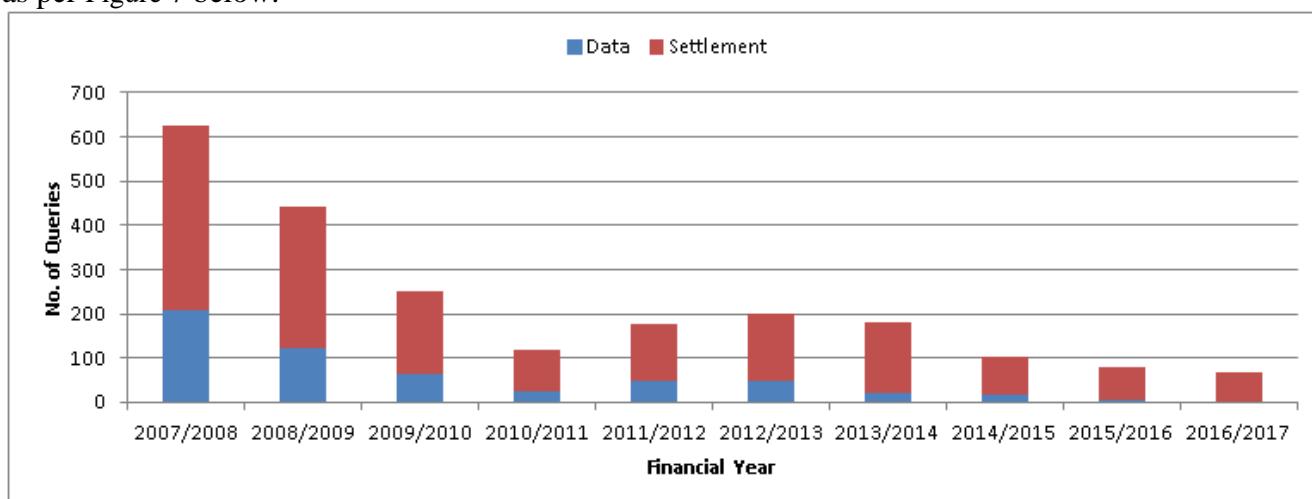


Figure 7 – Number of Formal Data and Settlement Queries Received per Year

A decrease of issues relating to the major releases introducing significant additional functionalities from 2012 (Intra-Day Trading, Global Aggregation, MIUN calculator etc), has been observed. Additional functionalities (and associated issues resulting from these changes) have contributed to the increase of formal queries received until Financial Year 2013/2014. There has been a reduction of 25% compared to the previous year and a continuing reduction of 13% through 2016/2017. The stabilization of issues and minimized major deployment resulting in further defects has contributed to the decrease. Details are included in Table 5 below.

YEAR	DATA	SETTLEMENT	TOTAL	% CHANGE
2007/2008	209	418	627	-
2008/2009	122	322	444	-29%
2009/2010	62	190	252	-43%
2010/2011	25	95	120	-52%
2011/2012	47	130	177	48%
2012/2013	47	155	202	14%
2013/2014	22	157	179	-11%
2014/2015	15	89	104	-42%
2015/2016	4	74	78	-25%
2016/2017	3	65	68	-13%

Table 5 - Formal Data and Settlement Queries Received

The breakdown of the reasons behind Data Queries received is shown in 8 below.

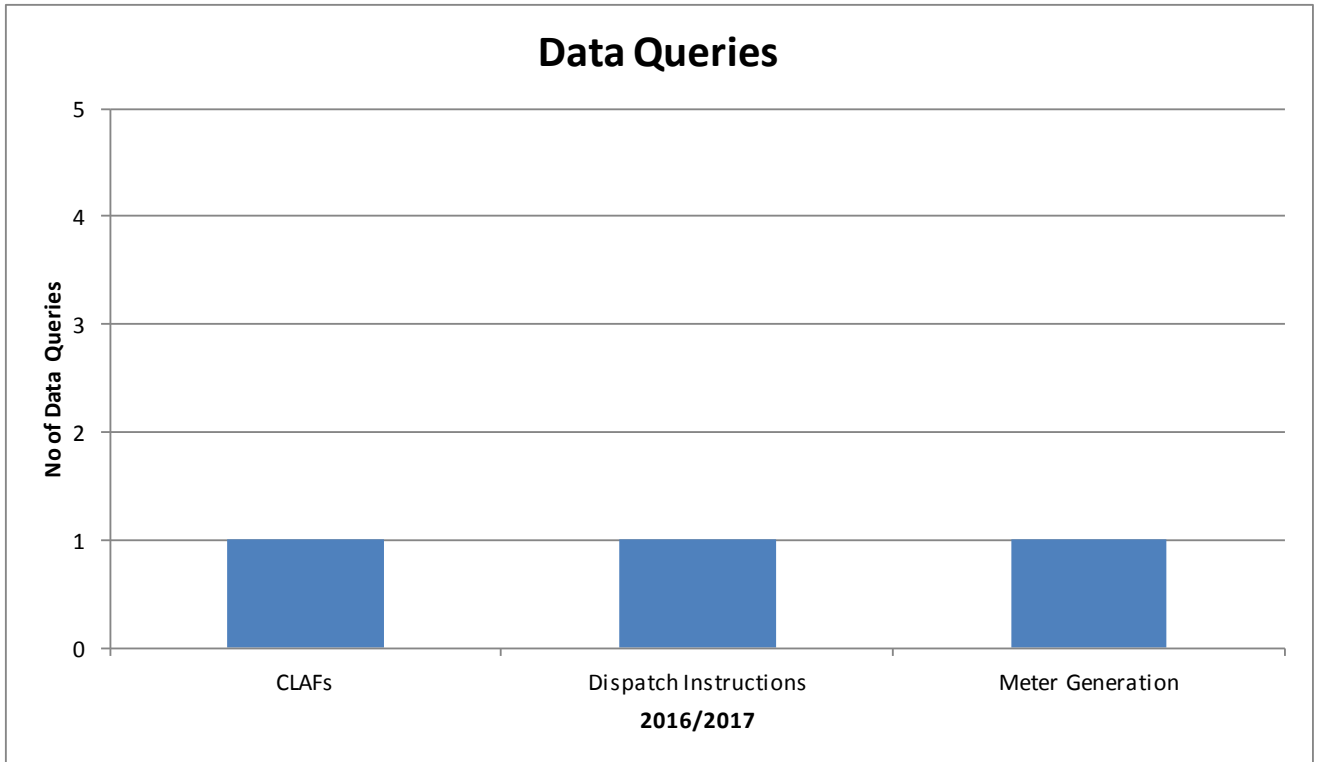


Figure 168 - Data Queries by subject matter

The most common resolution for Data Queries, shown in Figure 179, were confirmations of errors in input data. All three data queries were upheld.

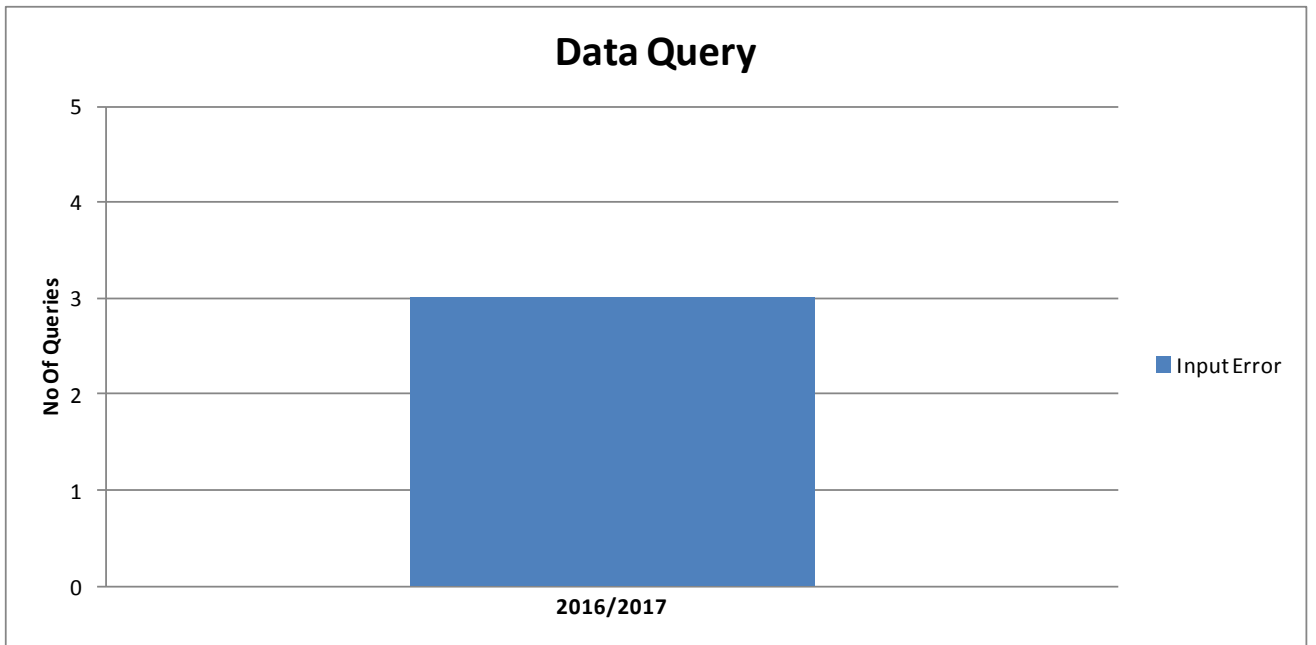


Figure 179 - Responses to Data Queries

With regards to Settlement queries, Figure 20 below shows the breakdown of queried items for financial year 2016/2017

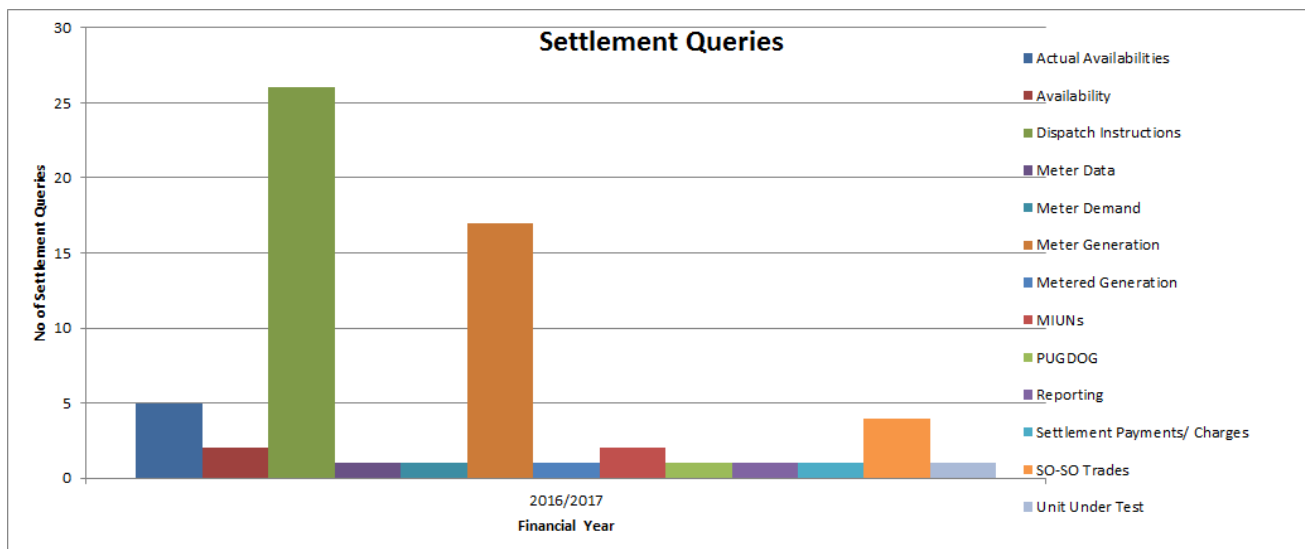


Figure 20 - Settlement Queries by subject matter

The most common Settlement Queries received were on Dispatch Instructions, Metered Generation and SO Trades, although the numbers have reduced compared with previous financial year.

Figure 21 shows that the vast majority of all Settlement Queries were due to incorrect input data sent to the SEM. SEMO recognises that improvements have been made to processes from data providers to try and reduce these errors and will continue to actively liaise with the relevant parties to highlight and resolve issues in a timely manner.

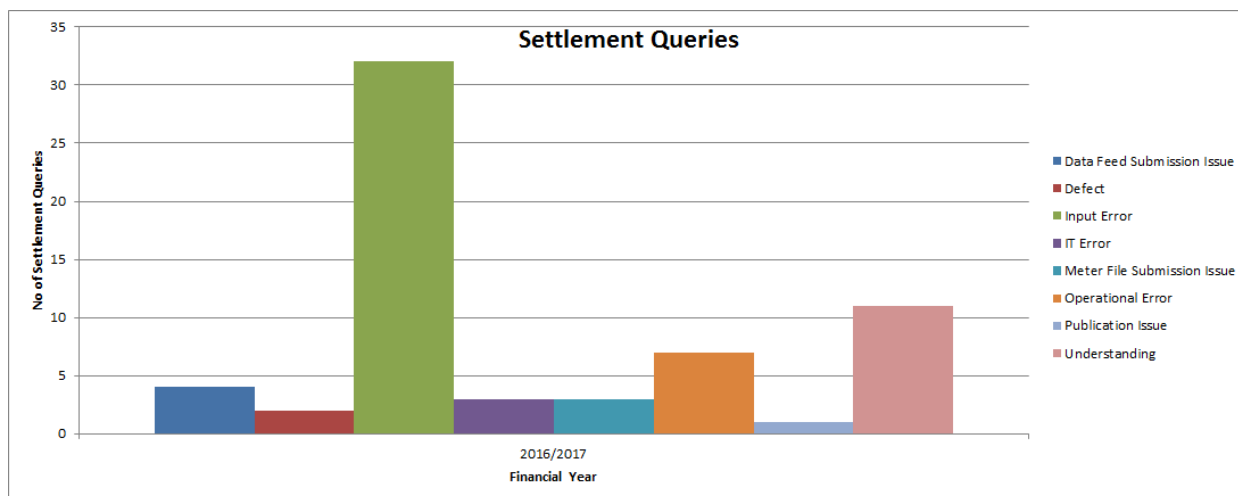


Figure 21 - Responses to Settlement Queries

The overall trend for all Formal queries since Market go live, confirms that the number of spurious queries has diminished and that queries not upheld now represent a minority of all queries received.

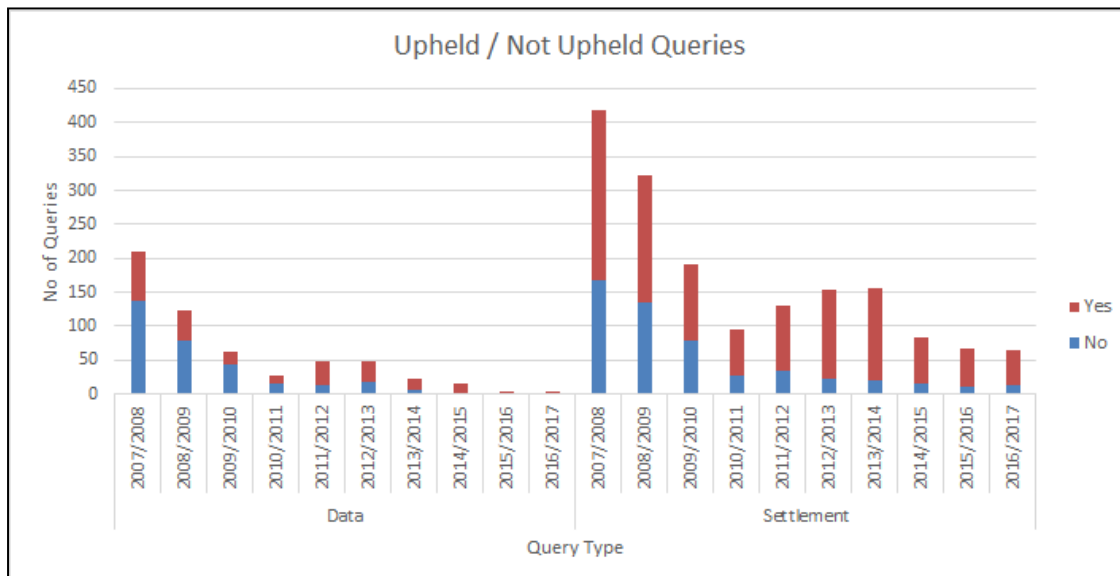


Figure 22 – Upheld (‘Yes’)/Not Upheld (‘No’) Formal Queries

Figure 183 below shows that out of all queries not upheld the majority of them were due to incorrect understanding or for confirmation that the data queried was, in fact, correct. The below table details settlement queries as all Data Queries were upheld within the financial year of 2016/2017.

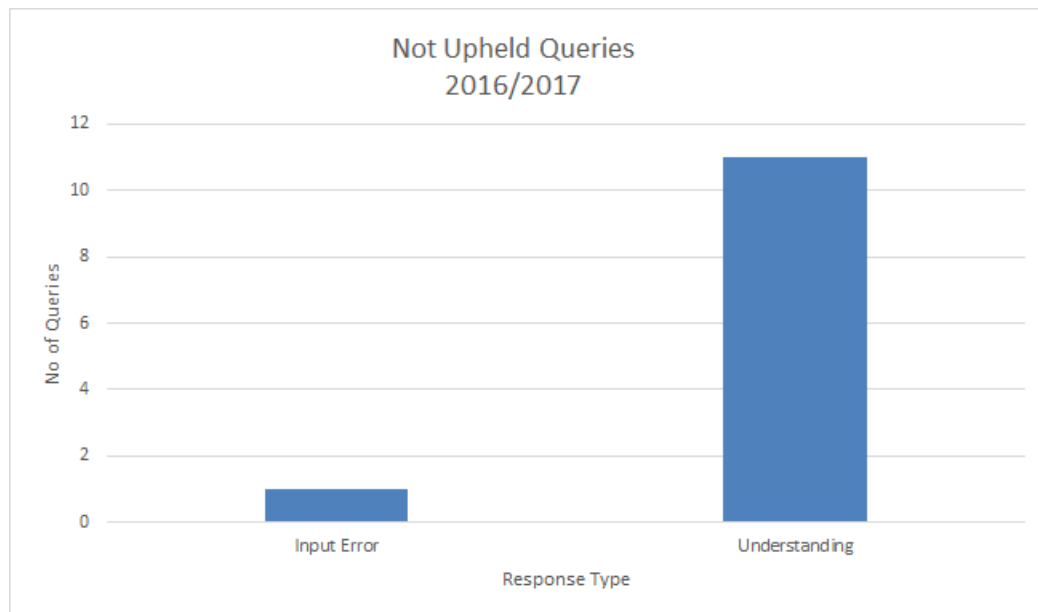


Figure 1823 – Formal Queries Not Upheld by response type – Financial year 2016/2017

The following graph in Figure 4 show the resolution times for Data and Settlement Queries compared with the previous year. Queries continue to be responded to within the required timelines set out in the Trading & Settlement Code¹.

In the financial year there we no Formal query extensions for Data or Settlement Queries submitted this year. Requests for 10 Day extensions to the timeline were heavily used in the first years of market operations. Response time continue to be below the T&SC maximum allowed,

At times SEMO has delayed closing off some queries to allow efficient scheduling of runs in Market Operations.

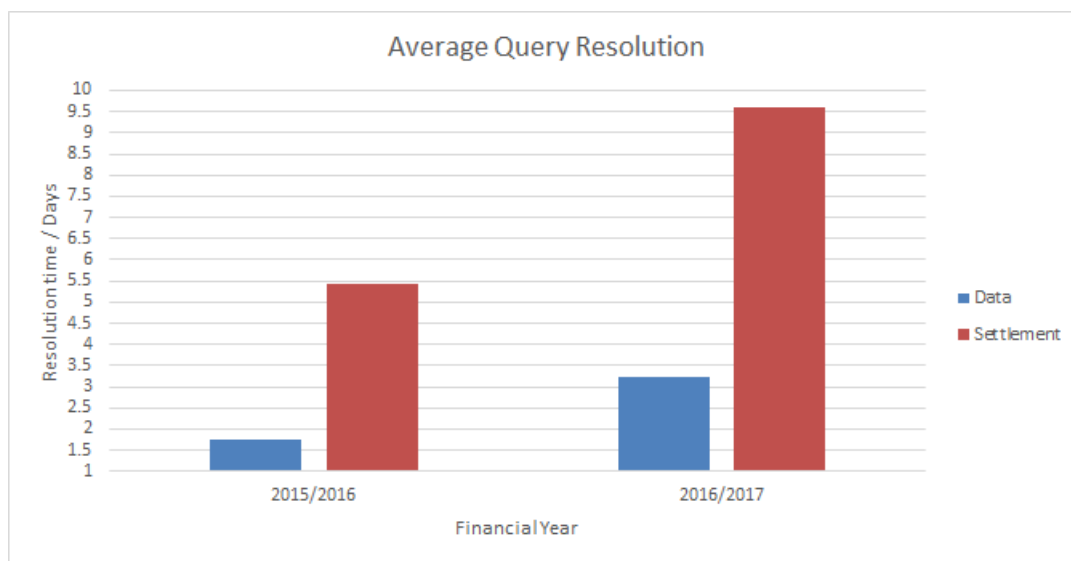


Figure 24 – Response Times for Data & Settlement Queries

6.2 Market Review

Figure 19 below shows the summed Daily Generator Availability and the Load Weighted Average System Marginal Price across the financial year being reported.

The Availability over the current financial year was greater than previous year and also more stable, reflected in a less volatile SMP with fewer spikes than previous years.

Volume weighted average SMP was also lower than the previous year. In financial year 2015/2016 this was €41.40 compared to €49.89 in current financial year 2016/2017.

¹ Please note that graph shows number of actual days instead of working days; this explains how some queries seems to exceed the T&SC timelines. This is particularly evident in the Data Query graph as a number of queries were responded after the Christmas break.

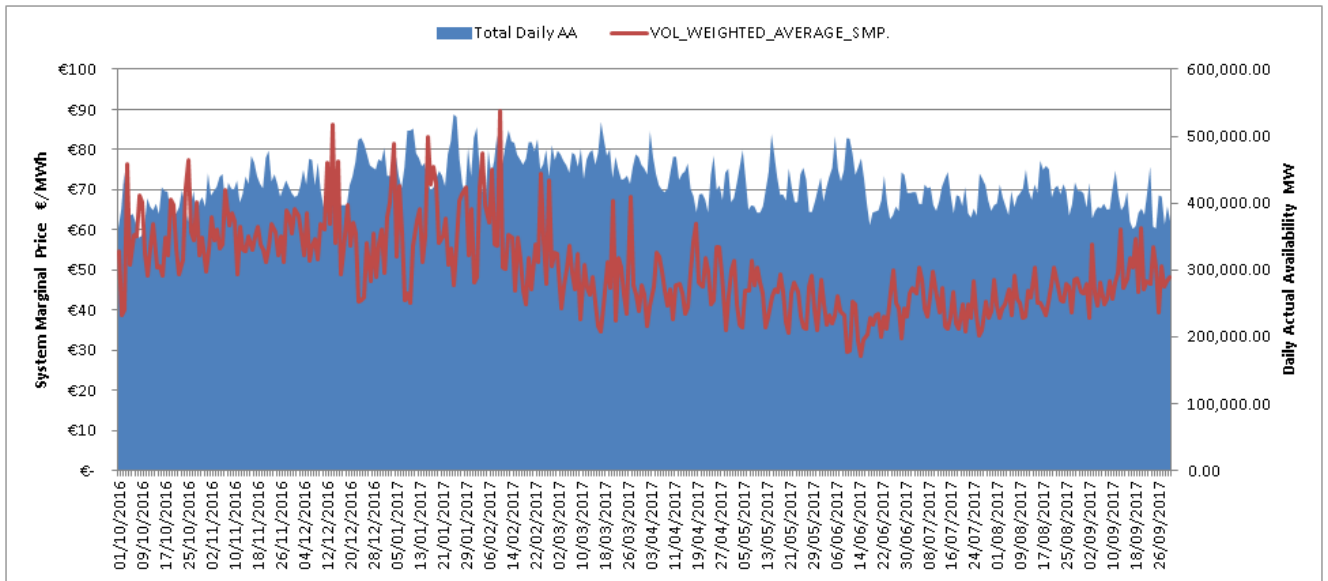


Figure 19 – Daily Total Availability and Volume Weighted Average SMP

In Figure 26 below, it is shown how the SMP highest spike occurred at the highest Demand point which happened at the same time of an Availability dip.

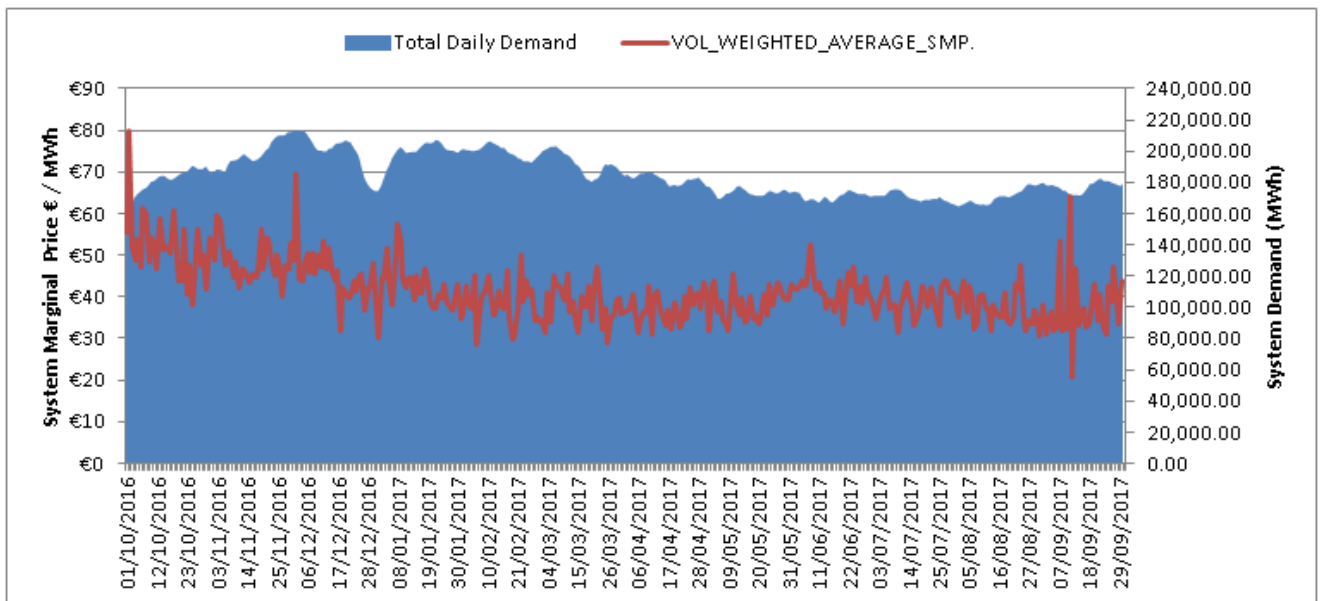


Figure 20 –Total Daily Metered Demand and Volume Weighted Daily SMP

Figure 27 compares the total monthly metered Demand values for each year since 2012. Demand level for calendar year 2015/2016 and 2016/2017 were on a par with the previous year just marginally higher than levels that were observed in 2012.

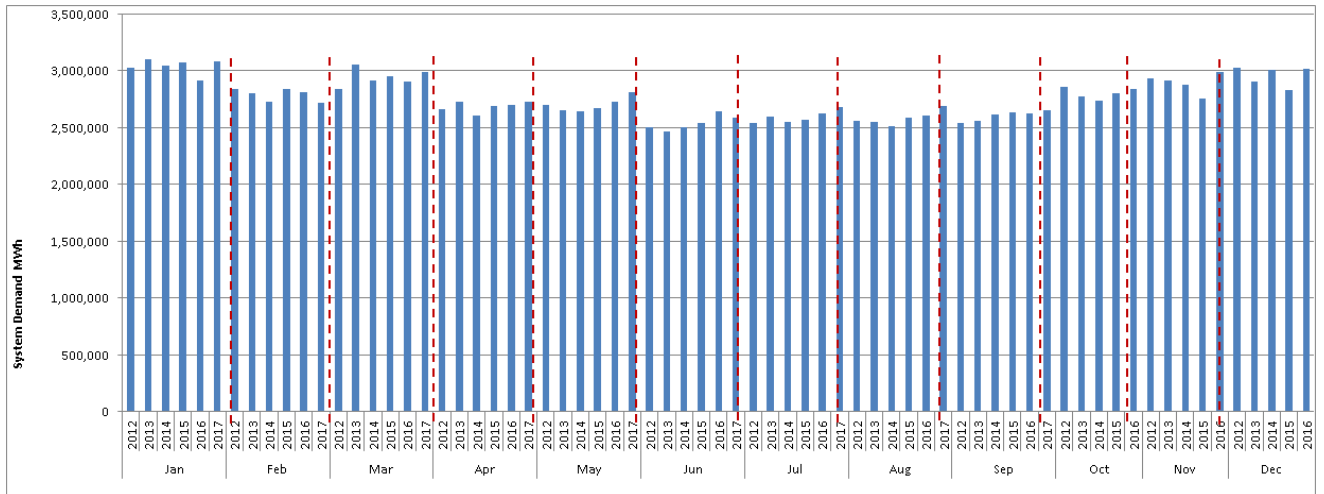


Figure 21 – Total Monthly Metered Demand, Jan 2010 to Sept 2017 Comparison

Throughout the year, variations in Demand and the Availability of plants lead to significant changes in Margin. When Margin is compared to Load Weighted Average SMP, it is clearly visible how the SMP is inversely affected by the Margin. Similarly to previous years, a pattern is discernible in Figure 22 with the highest price spikes over the periods of lowest margins.

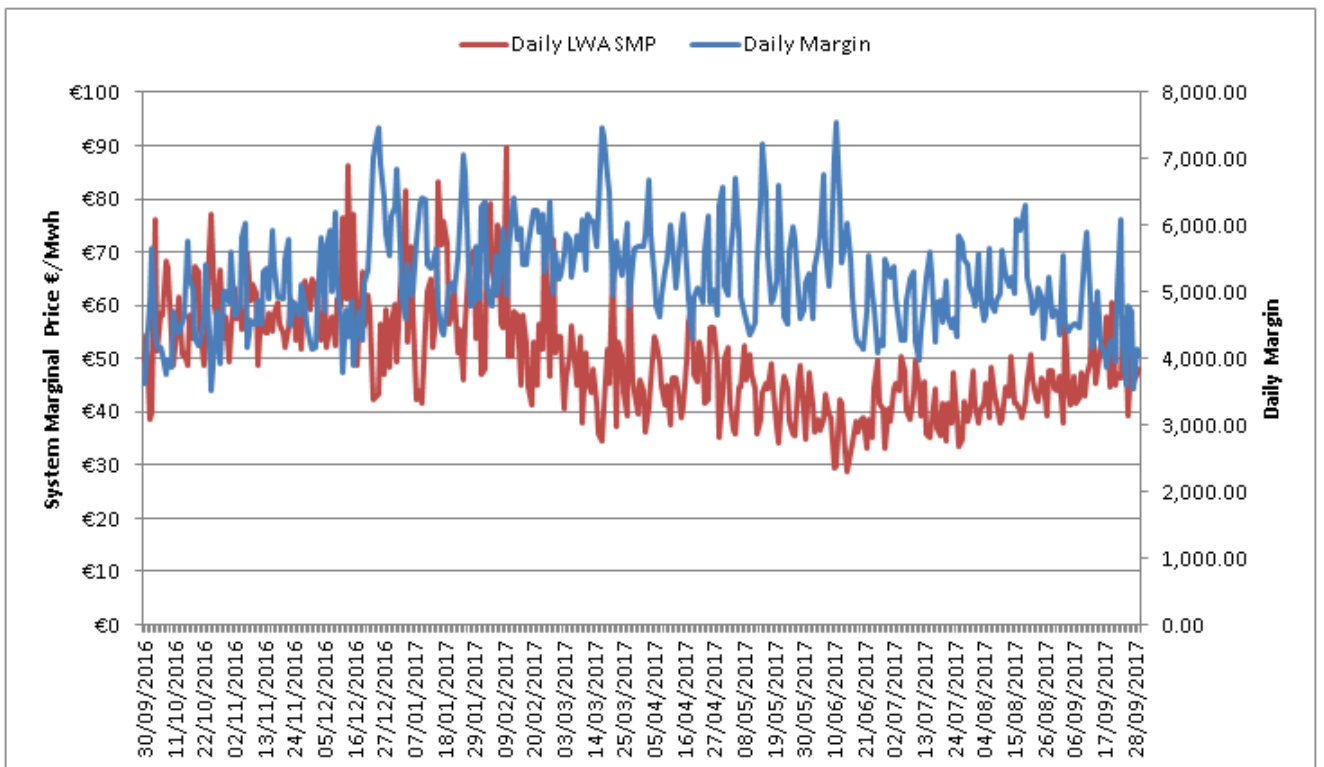


Figure 22 - Average Margin and Volume Weighted SMP

Figure 23 below shows the average daily SMP values by Trading Periods for the whole financial year from October 1st, 2016 to September 30th, 2017 for the three main run types. Similar to previous years the runs on average converge closely for most of the day with small variances concentrated over the morning and the evening peaks.

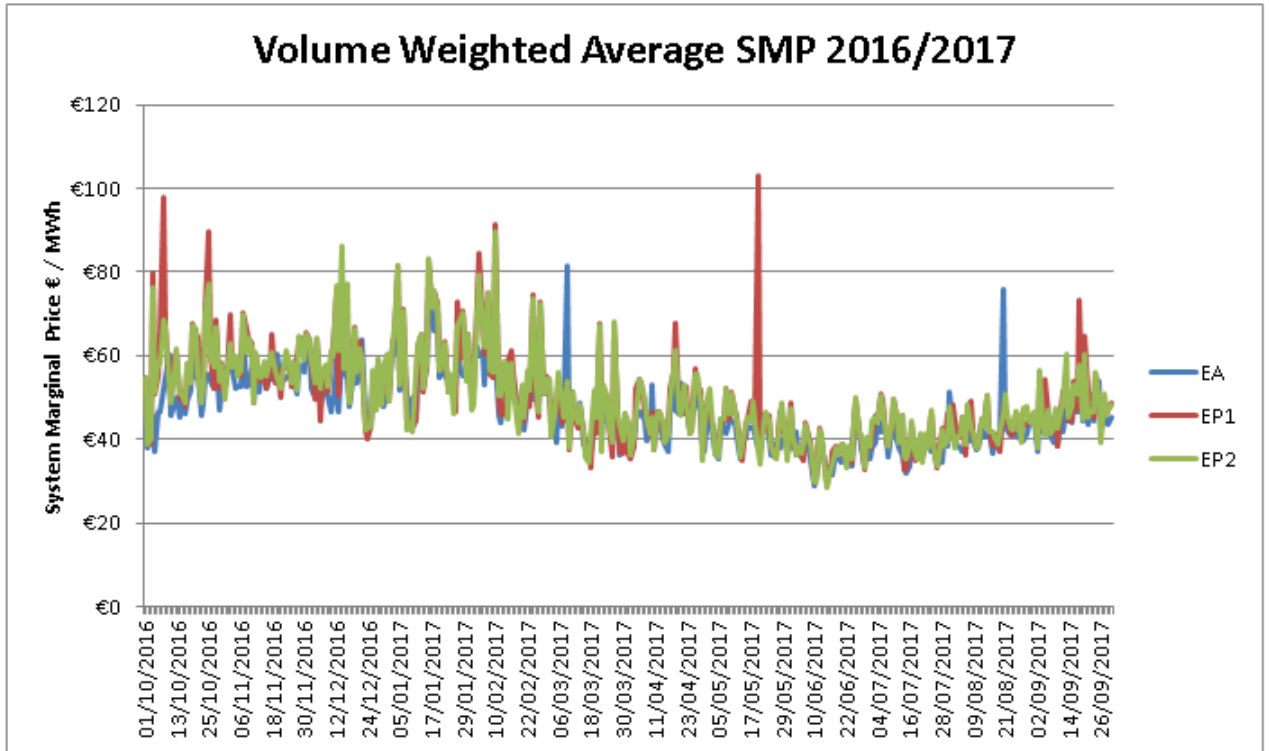


Figure 23 - Average Daily SMP by Trading Period from 1st Oct 2016 to 30th Sep 2017

Figure 24 below illustrates how the EA2 and WD1 compare with the EA, again small variations, on average, are observed over the morning and evening peak.

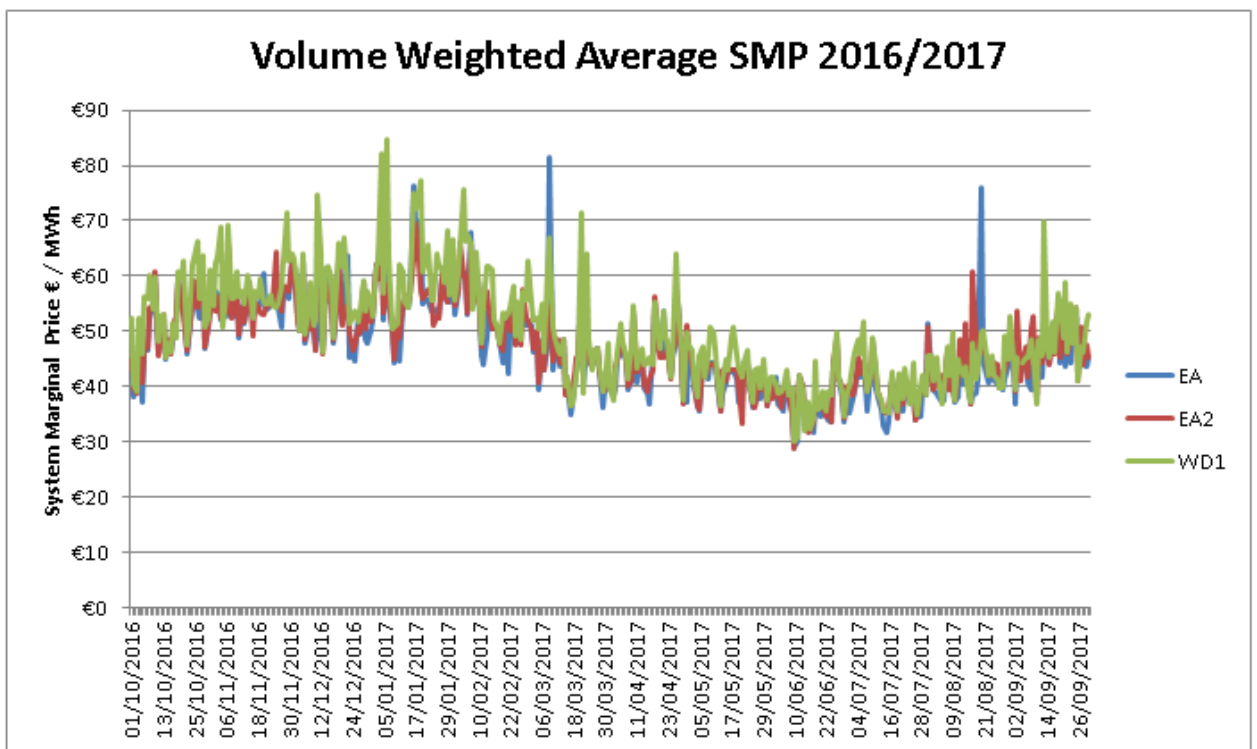


Figure 24 - Average SMP by TP from 1st Oct 2016 to 30th Sep 2017

6.3 Other Studies and Work

6.3.1 Guarantees of Origin and Fuel Mix Disclosure

SEMO is the issuing body of Guarantees of Origin (GO) in Ireland. SEMO began registering interested parties for the scheme in December 2011 and registration has been open to eligible Production Devices since. To be eligible for GOs a Production Device must generate electricity from a renewable source and must not be in receipt of support from a support scheme. There are 33 Account Holders and 111 Production Devices currently registered in the Online Registry.

There was 3 new Account Holders registered in the last year.

SEMO utilise [CMO.Grexel](#) as the Online Registry for GOs. CMO.grexel is compliant with the [EECS](#) (European Energy Certificate System), a standardization system for European Guarantees of Origin (GOs). SEMO has been a member of the [Association of Issuing Bodies](#) (AIB) since May 2015. AIB facilitate the international exchange of GOs via an inter-registry telecommunications hub.

From October 2016 to September 2017 1,881,023 GOs were issued on the Online Registry.

964,293 GOs were imported from other AIB members such as Norway, Sweden and Spain via the AIB hub. A further 8,028,806 GOs were imported manually from the United Kingdom.

415,386 GOs were exported to Norway.

2,170,623 GOs were cancelled on the Online Registry for use in Fuel Mix Disclosure in Ireland. There were no Ex-Domain cancellations in Ireland in the last year; cancelling GOs for use in Fuel Mix Disclosure in a country that is not a member of the AIB.

The Fuel Mix Disclosure Enduring Solution is a separate annual project linked to Guarantees of Origin. SEMO is the calculating body for the Fuel Mix Disclosure of both Ireland and Northern Ireland. The disclosure calculation for 2011 was the first year that the enduring solution was in place; this meant that Suppliers could declare GOs in their Fuel Mix submissions. This method is being used going forward. Suppliers have received their fuel mix breakdowns and a final publication of the data by the Regulatory Authorities has been completed for the 2016 calculation.

The Green Source Products Verification is done after the Annual Fuel Mix Disclosure Calculation. The Regulation of Green Source Products Decision Paper [CER/15/205](#) was published by the CER in August 2015. The 2016 disclosure period was the second year of the verification process. The purpose of this verification process is to ensure that any Supplier offering Green Source Products has claimed sufficient Green Attributes (GOs and PSO) in their Fuel Mix Disclosure declaration to cover their sales of Green Source Products. The results of the 2016 verification process were communicated to the Suppliers and the Commission for the Regulation of Utilities (CRU) on 05/07/2017.

6.3.2 Cigre Working Groups

SEMO were involved in two Cigre (International Council on Large Electric Systems) working groups during the reporting year on wholesale market related topics. Working group C5.20 focussed on 'Drivers for Major Change in Electricity Markets' where SEMO provided detailed information in relation to the drivers for developing the ISEM arrangements. Working Group C5.21 focussed on 'Impacts of Environmental Regulations on Power Markets' where SEMO provided detailed information on the various schemes aimed at delivering our obligations under the European Union's 2020 Energy & Climate Package.

Involvement in both groups was fruitful and involved information sharing via technical questionnaires and conference calls followed by face to face meetings at the annual symposium in Dublin. Each

group developed a technical brochure which included representations from a number of jurisdictions including Ireland and Northern Ireland. Involvement in these groups is extremely helpful in understanding and sharing information related to common issues and solutions with other jurisdictions internationally.

6.3.3 REMIT

SEMO continue to comply with their obligations under Regulation (EU) No 1227/2011; as an Organised Market Place reporting market transactional data to the Agency for Cooperation of Energy Regulators (ACER).