



Market Operator Monthly Report

April 2018

Table of Contents

EXECUTIVE SUMMARY	4
MONTHLY STATISTICS	5
TRADING AND SETTLEMENT CODE BREACHES	5
JOINING AND TERMINATING PARTIES AND UNITS	6
SUSPENSION OF PARTICIPANTS.....	6
FINANCIAL STATISTICS.....	7
TOTAL PAYMENTS FOR EACH CURRENCY	8
TOTAL BALANCING COSTS.....	8
TOTAL CURRENCY COSTS.....	11
CUMULATIVE IMPERFECTIONS COSTS Vs BUDGET	12
FINANCIAL CHANGES BETWEEN INITIAL SETTLEMENT AND SUBSEQUENT RERUNS.....	13
3.1.1 Energy Market	13
3.1.2 Capacity Market	17
HELPDESK CALL STATISTICS.....	22
DISPUTES AND QUERIES	23
5.1.2 Data Queries.....	23
5.1.3 Settlement Queries	23
CENTRAL SYSTEMS.....	24
6.1 PROPORTION OF DEFAULT DATA USED	24
6.2 PROPORTION OF ESTIMATED METER DATA USED IN INITIAL SETTLEMENT AND RESETTLEMENT	24
6.3 LIST OF SYSTEM ERRORS AND RE-RUNS.....	24
6.3.1 Re-Pricing / Resettlement Runs / MIUN Delays	24
6.3.2 System Errors	24
6.4 OPERATIONAL TIMINGS.....	25
1.4.1 MSP Postings April 2018	25
6.4.2 MSP Algorithms	28
1.4.1 Settlement Postings April 2018.....	29
OCCASIONAL COMPONENTS	31
7.1 DISASTER RECOVERY/BUSINESS CONTINUITY TESTS	31
7.2 COMMUNICATIONS OR SYSTEMS FAILURES	31
7.3 DENIAL OF SERVICE ATTACKS.....	31
7.4 SUBMISSION OF PARAMETERS TO RAs FOR APPROVAL	31
APPENDIX A: DETAIL OF TRADING AND SETTLEMENT CODE BREACHES.....	32
DATA PROVIDER.....	32
MARKET PARTICIPANT	32
SEMO – SETTLEMENTS.....	32
SEMO - PRICING AND SCHEDULING	32
SEMO - FUNDS TRANSFER.....	32
SEMO - CREDIT MANAGEMENT	32
SEMO – OTHER.....	32
APPENDIX B: LIST OF QUERIES BY TYPE	33
APPENDIX C: LIST OF ALL SYSTEM ERRORS AND FAILURES.....	34
APPENDIX D: DETAILS OF OPERATIONAL TIMINGS	35
MARKET SCHEDULE AND PRICE RUNS.....	35
SETTLEMENT RUNS	36
APPENDIX E: IMPERFECTIONS CHARGE.....	37
APPENDIX F: DEFAULT COMMERCIAL OFFER DATA USED	48

APPENDIX G: TOTAL CHARGES AND PAYMENTS DATA.....	53
APPENDIX H: FULL BALANCING COSTS.....	55
TRADING MARKET	55
CAPACITY MARKET.....	56
APPENDIX I: MSP ALGORITHMS	57

Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of April 2018 and is published in accordance with the Single Electricity Market (SEM) Committee decision and Clause 2.144 of the Trading and Settlement Code.

During the month of April 2018, there were no late Settlement publications as per the Trading and Settlement Code.

During the month of April 2018, there was no late Credit Report publication as per the Trading and Settlement Code timelines.

There were 7 defaults by Participants during April 2018. The largest of these was a Energy Week 12 2018 Initial invoice for €20,832.95 which was remedied on the same day.

There were no Credit Cover Increase defaults during April 2018 as per the Trading and Settlement code timelines.

171 general queries were received in April 2018. During the same period 184 general queries were resolved.

Formal queries continue to be answered well within the timelines stipulated in the Trading and Settlement Code.

Monthly Statistics

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	Minor
Data Providers		-	-
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	7	-
	Credit Risk Management	-	-
SEMO	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
Total		7	-

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](#)

Key:

- Major Breach - late publishing of invoices, default notices issued for non-payment or similar.
- Minor Breach - deadlines not met, but no financial implication to Participants. This includes late posting of pricing and settlement runs.

Joining and Terminating Parties and Units

One new Party joined the Market in April 2018

- PY_000198 Warmhill Limited

There were no terminating parties in April 2018.

The below units went effective in the Market in April 2018.

- PT_500121_ElectroRoute Energy Supply NI – SU_500094 ElectroRoute Energy Supply NI
- PT_500123_3T Power Limited – SU_500095 3T Power Limited

No units de-registered from the Market in April 2018.

Suspension of Participants

No Suspension Orders were issued by the Market Operator in April 2018.

Financial Statistics

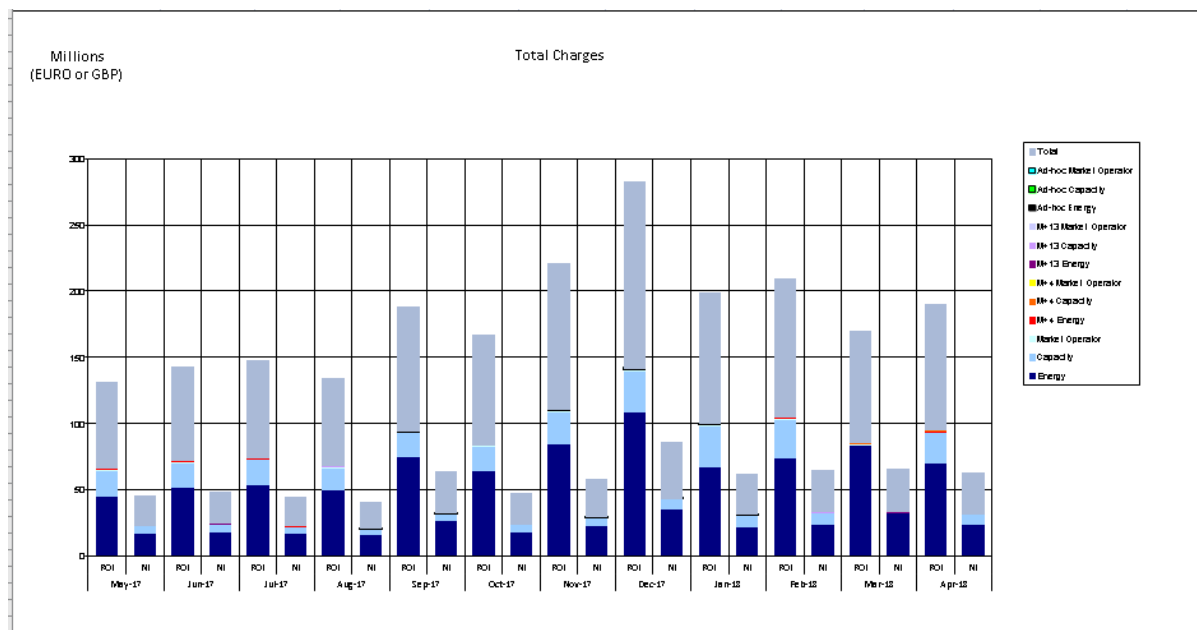


Figure 1 - Total Charges for Each Currency

Market	April 2018	
	ROI	NI
Energy	€69,317,323	£23,659,859
Capacity	€23,231,814	£7,429,700
Market Operator	€783,294	£190,874
M+4 Energy	€970,456	£151,575
M+4 Capacity	€256,503	£33,802
M+4 Market Operator	€5,627	£816
M+13 Energy	€71,337	£72,822
M+13 Capacity	€267,758	£115,446
M+13 Market Operator	€516	£533
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€94,904,628	£31,655,427

Table 2 - Total Charges for Each Currency

Notes relating to Table 2 and 3:

- Month of inclusion based on Invoice Date.
- Amounts are after application of Settlement Reallocations.
- Previous month's data is available in [Appendix G](#).

Total Payments for Each Currency

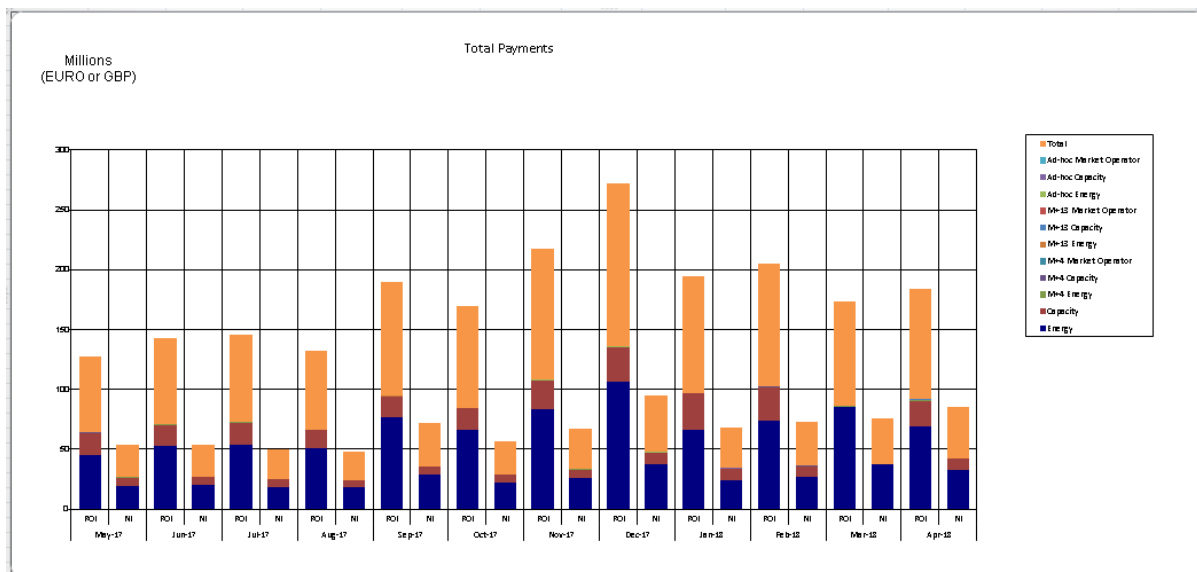


Figure 2 - Total Payments for Each Currency

Market	April 2018	
	ROI	NI
Energy	€69,267,924	£32,845,010
Capacity	€20,860,692	£9,450,019
M+4 Energy	€945,469	£150,560
M+4 Capacity	€237,063	£50,635
M+4 Market Operator	€3,887	£818
M+13 Energy	€193,101	£72,832
M+13 Capacity	€310,897	£77,370
M+13 Market Operator	€516	£533
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€91,819,549	£42,647,777

Table 3 - Total Payments for Each Currency

Total Balancing Costs

Balancing Costs arise in the Energy and Capacity markets when the summed payments to the SEM from Participants in respect of their Supplier Units do not meet the summed payments to Participants from the SEM in respect of their Generator Units.

Although, it is intended the Energy Payments and Energy Charges should be balanced through the mechanism of the Error Supplier Unit in each jurisdiction, because Energy Payments are made against Market Schedule Quantities while the Error Supplier Unit volumes are calculated against Metered Generation, the different application of Loss Factors means that there is frequently an imbalance between the Energy Payments and Energy Charges.

With regard to the Energy Settlement, the Balancing Costs have been calculated as follows for the entire month:

April 2018	
Imbalance (Energy Only)	-€10,917,840.61

Table 4 - Balancing Costs for Energy Settlement

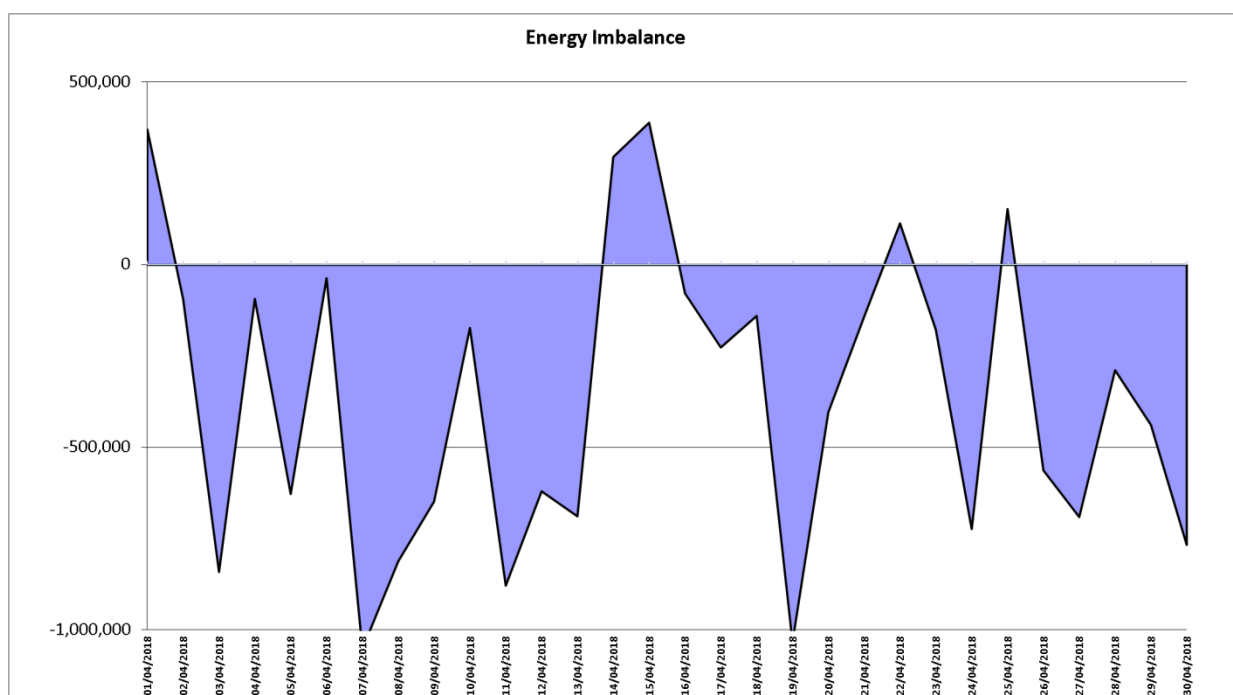


Figure 3 – Energy Imbalances

The full Balancing Cost of the SEM is determined by the summation of the daily payment amounts for Energy Imbalance, Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges combined with the weekly Make Whole Payments and Testing Charges.

Historical values for testing charges have been provided in [Appendix E](#).

Market Operator Monthly Report

The figures for the full Balancing Cost of the SEM since the last Market Operator report are shown below, as well as the VAT Balancing Costs.

In tables 5 and 6 below:

- Positive values indicate Payments were greater than Charges.
- Negative values indicate Charges were greater than Payments.

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
06/04/2018	12	€3,709,200.97	€0
13/04/2018	13	€6,818,333.49	€0
20/04/2018	14	€1,405,312.25	€0
27/04/2018	15	€2,534,835.45	€0

Table 5 – Balancing Costs for Trading Payments and Charges

SEM Balancing Costs are provided based on daily exchange rates, VAT Balancing Costs are based on the Invoicing day exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

It is intended that the algorithms set out in the Trading and Settlement Code will lead to a balanced Capacity Market. However, rounding precisions within the systems may result in an imbalance being introduced into the equations. This imbalance may lead to funding requirements to ensure that all payments out are made as per the terms of the Trading and Settlement Code.

With regard to the Capacity Settlement, the Balancing Costs have been as follows:

April 2018	
Capacity Charges	€-49,572,151.64
Capacity Payments	€ 49,571,806.40
Balancing Costs	€ -345.23
VAT	€0

Table 6 - Balancing Costs for Capacity Settlement

Historical figures, the current financial year full Balancing Costs for both Trading and Capacity are provided in [Appendix H](#). VAT Balancing costs exclude Currency Cost related VAT.

Total Currency Costs

Currency Costs in the SEM are calculated with respect to the difference in Exchange Rates due to two components:

- 1) Invoice Currency Costs: - in respect of the difference between the Trading Day Exchange Rate (and Annual Capacity Exchange Rate in respect of Capacity Settlement) and the Exchange Rate on the Date of Invoice (being the date of issue of the Invoice) for Trading Payments and Charges.
- 2) Payment Period Currency Costs: - in respect of the difference between the Exchange Rates between the Date of Invoice and the Date of Payment.

Although the Trading and Settlement Code uses the term Currency Cost, the currency differences may end up as a benefit or a cost to the Participant depending on how the Exchange Rate fluctuates between the Billing Period, Invoice Date and Payment Date. In the table below, where this value is positive this means there was an overall benefit to Participants, negative values mean there was an overall cost to Participants resulting from trading in two currencies. Figures are shown in Sterling (£).

Last Date Of Billing Period	Date Of Invoice	Week No	Currency Costs For Energy Settlement (Invoice and Payment)	Currency Cost Adjustment for Inter-jurisdictional SRAs	Total Currency Cost
31/03/2018	06/04/2018	12	£57618.28	£-	£57618.28
07/04/2018	13/04/2018	13	-£32439.01	£-	-£32439.01
14/04/2018	20/04/2018	14	-£14194.82	£-	-£14194.82
21/04/2018	27/04/2018	15	-£58938.15	£-	-£58938.15

Table 7 - Total Currency Costs for Trading Payments and Charges

The Total Currency Cost figures detailed above show the Currency Cost for each Billing Period including Invoice Currency Costs, Payment Period Currency Costs, and Inter-jurisdictional SRA Currency Costs.

Over the period of this report Currency Costs for each week represented a benefit to Participants of up to £57,618.28 and a loss of up to £58,938.15. Whether Currency Costs are a cost or benefit to Participants is directly related to whether the currency is rising or falling between the billing period, invoice date and payment dates.

Settlement Reallocation Agreements between the two currency zones continue to present volatility in the Currency Costs that appear in the Energy market each week. The value of these adjustments is detailed separately above in each Billing Period.

Market Operator Monthly Report

The Currency Costs, for the current financial year, with respect to Initial Capacity Settlement are set out below. Figures are shown in Sterling (£).

Date Of Invoice	Capacity Month	Currency Costs For Capacity Settlement
11/04/2018	March 2018	-£90720.95

Table 8 - Total Currency Costs for Capacity Payments and Charges

Cumulative Imperfections Costs Vs Budget

The value of Cumulative Imperfections Costs Vs Budget is calculated as the sum of Total Constraint Payments, Total Uninstructed Imbalance Payments, Total Testing Charges and Total Make Whole Payments, as compared against the Total Imperfections Charges, being the weekly budget for these Imperfections Costs.

These values have been collected across the months since the start of the new financial year, 1st October 2017. The values expressed in Euros are as follows.

This table makes use of the values taken from the Initial Settlement Run of Trading payments and charges.

Total Constraint Payments	Total Uninstructed Imbalance	Total Make Whole Payments	Total Imperfections
€161,361,075.12	-€2,754,922.98	€4,385,021.21	-€104,509,699.05

Table 9 – Cumulative Imperfections Costs Vs Budget

Note: The Total Constraints Payment figure above has been updated to contain Interconnector Unit Gate variables.

This is demonstrated in the figure below.

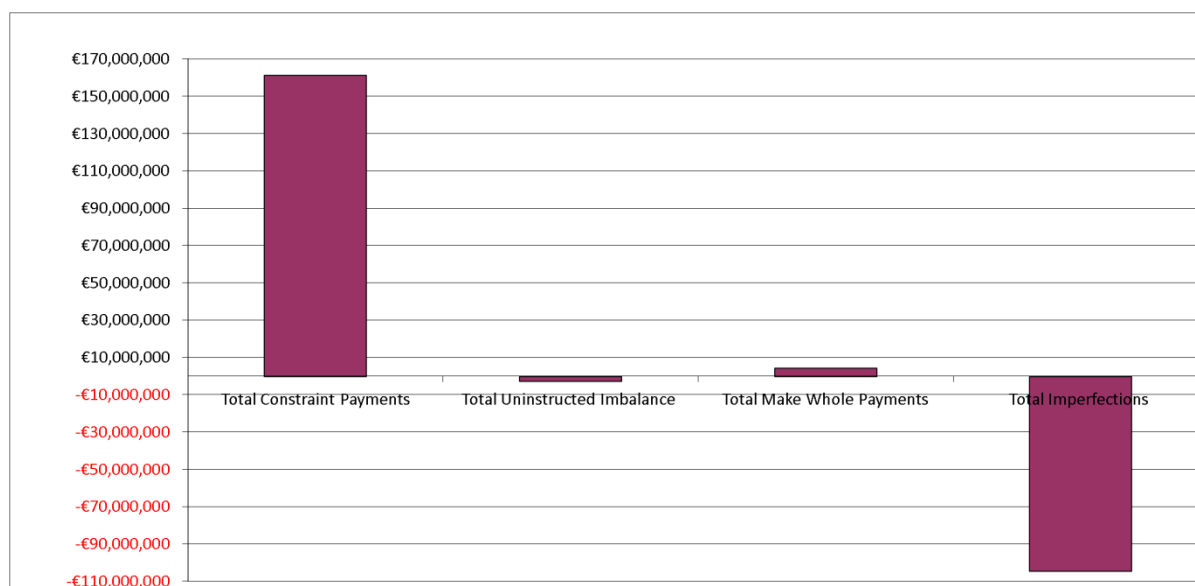


Figure 4 - Cumulative Imperfections Costs Vs Budget

The daily and weekly data that comprised these values is shown in [Appendix E](#).

Financial Changes between Initial Settlement and Subsequent Reruns

The following graphs provide a breakdown of resettlement amounts for the M+4 resettlement period of December 2017 and M+13 resettlement period of March 2017 for Energy and Capacity.

3.1.1 Energy Market

Note: - For Figure 6, 8, 9, net values are shown.

- Positive amounts indicate net additional payments by Participants (Charges).
- Negative amounts indicate net additional payment to be made to Participants (Payments).

The reverse is true for Figure 7 & 10

M+4 Resettlement

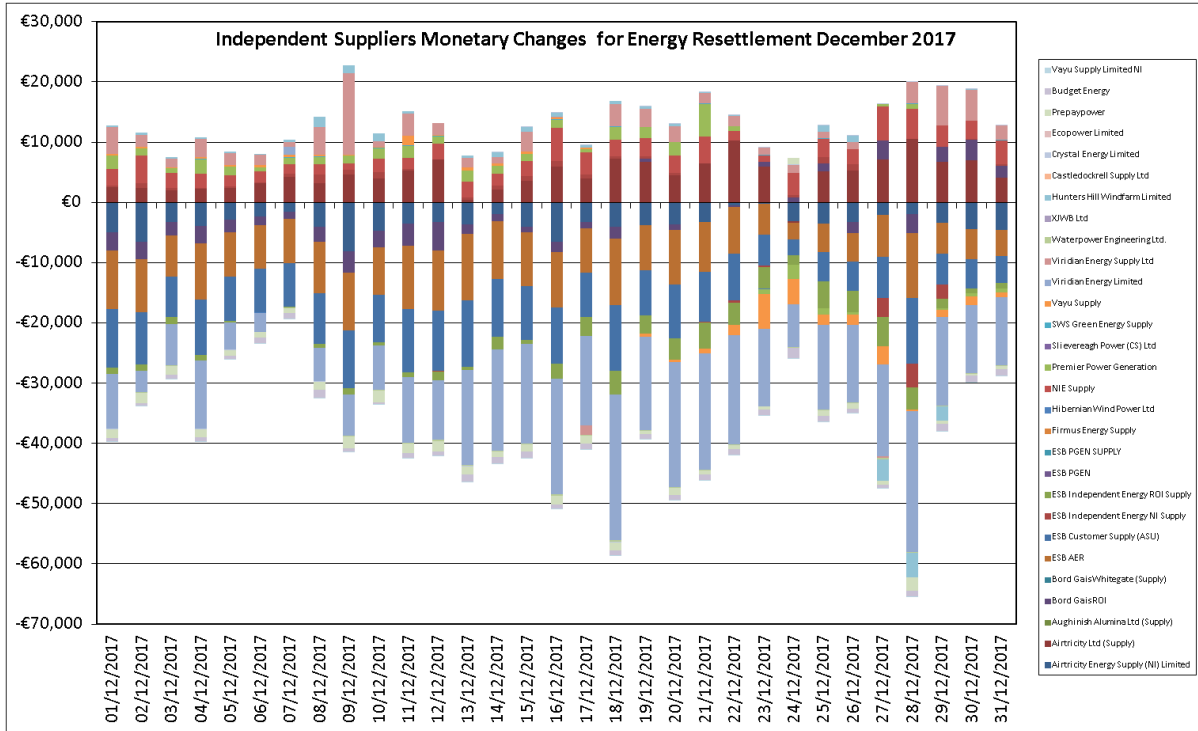


Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement - December 2017

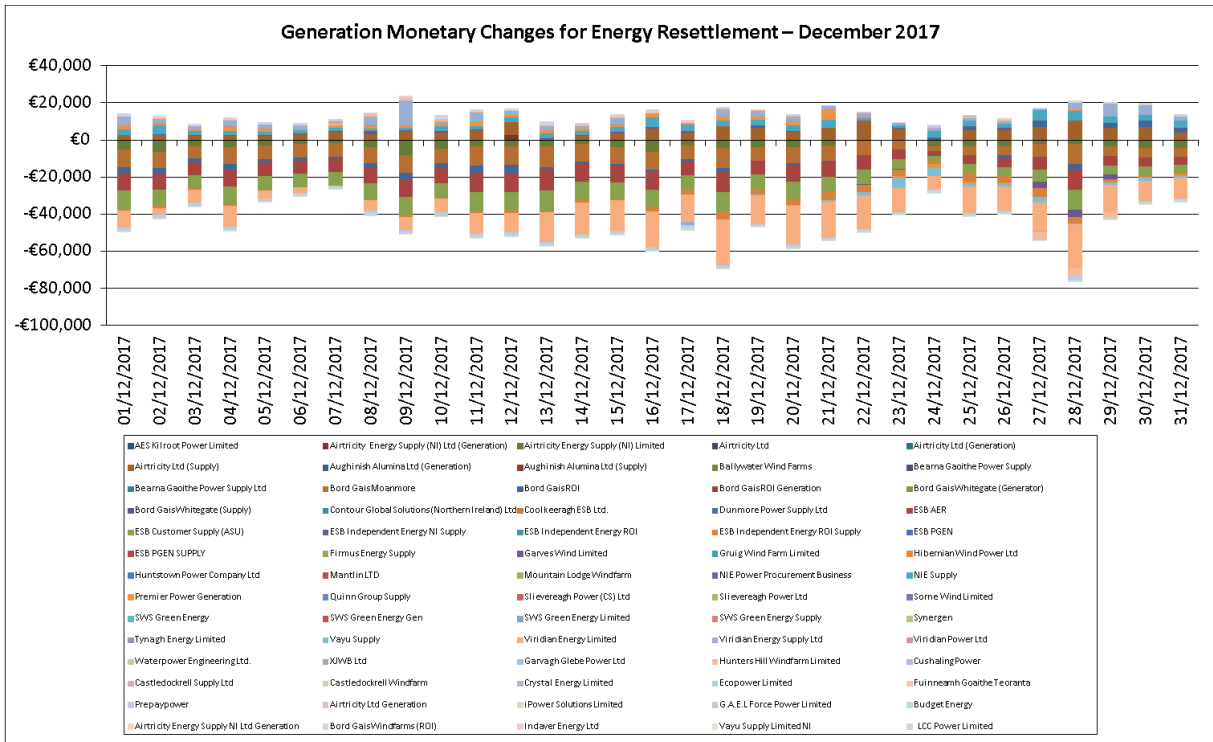


Figure 6 – Generation Monetary Changes for Energy Resettlement – December 2017

Market Operator Monthly Report

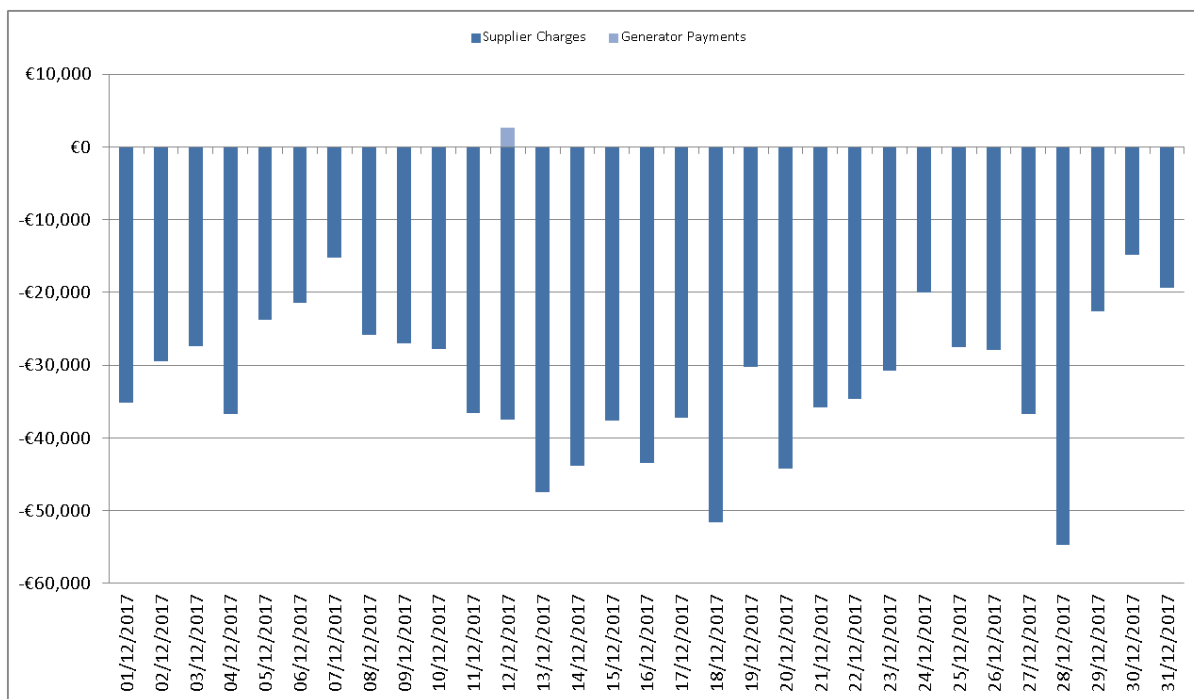


Figure 7 – Total Monetary Changes for Energy Resettlement – December 2017

Market Operator Monthly Report

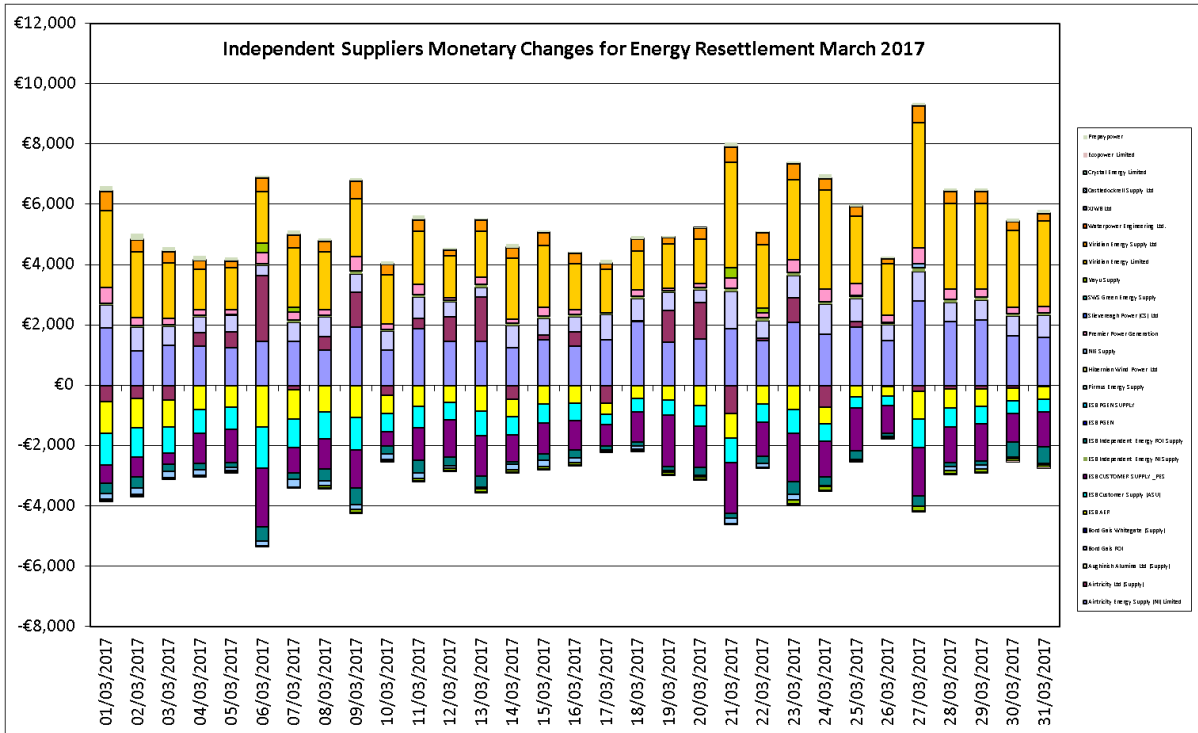


Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – March 2017

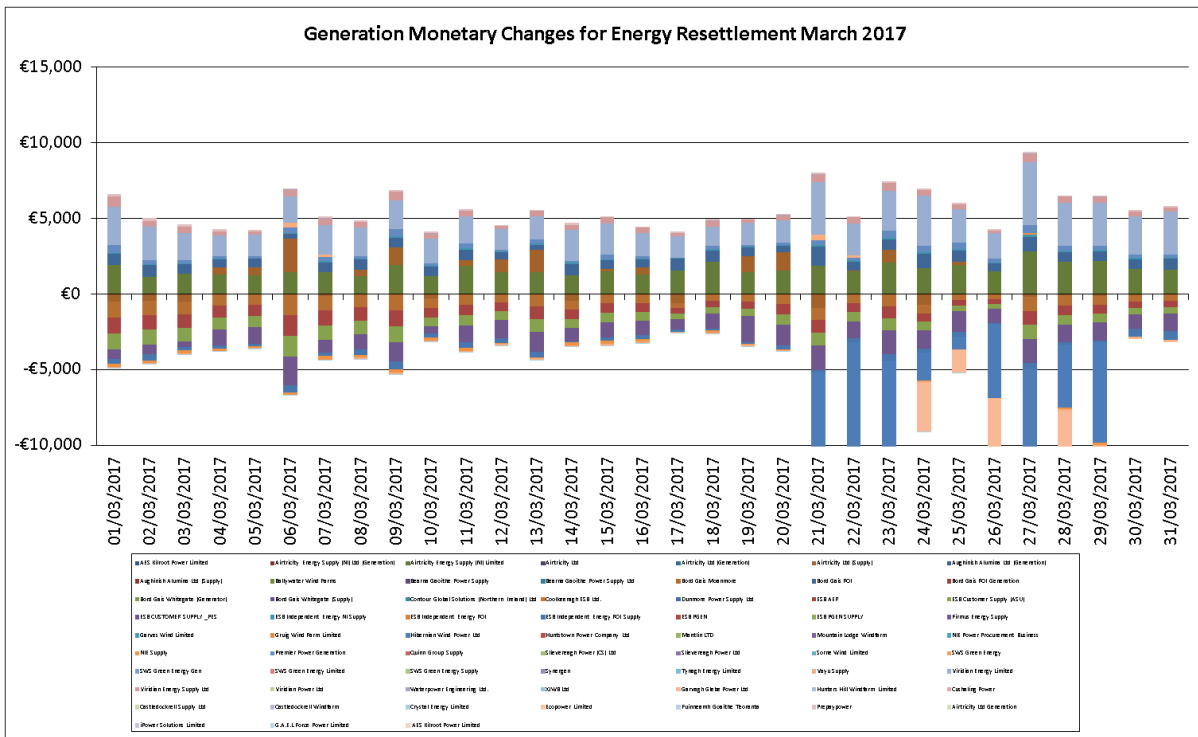


Figure 9 - Generation Monetary Changes for Energy Resettlement – March 2017

Market Operator Monthly Report

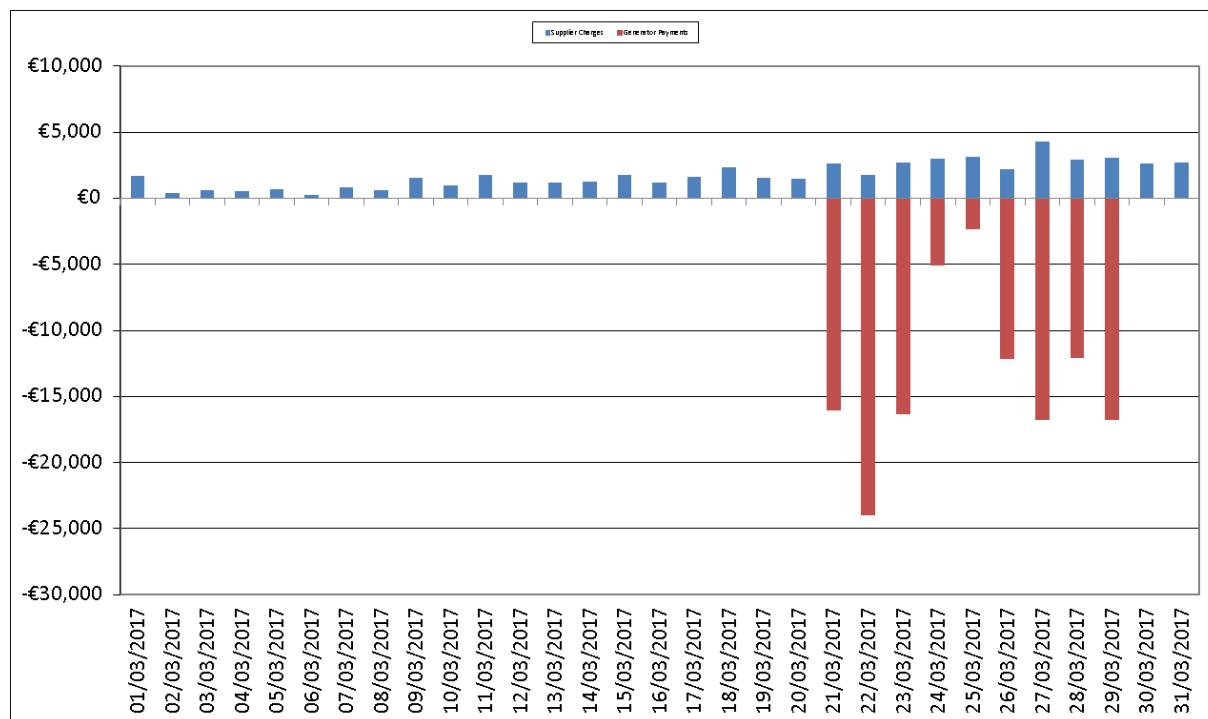


Figure 10 - Total Monetary Changes for Energy Resettlement – March 2017

3.1.2 Capacity Market

Note: - For Figure 12, 13 & 16 net values are shown.

- Positive amounts indicate net additional payments by Participants (Charges).
- Negative amounts indicate net additional payment to be made to Participants (Payments)

The reverse is true for Figure 14 & 22.

The changes in Capacity are graphed below showing the variance in monetary terms as opposed to percentage terms. As the Jurisdictional Error Supply Units can be significantly affected by resettlement, this is more reflective of the monetary redistribution in M+4 and M+13. Please also note that as of June 2011 the Jurisdictional Error Supply Unit (ROI) is now a Retail Supply unit. The Jurisdictional Error Supply Unit (NI) is unchanged.

M+4 Resettlement

Market Operator Monthly Report

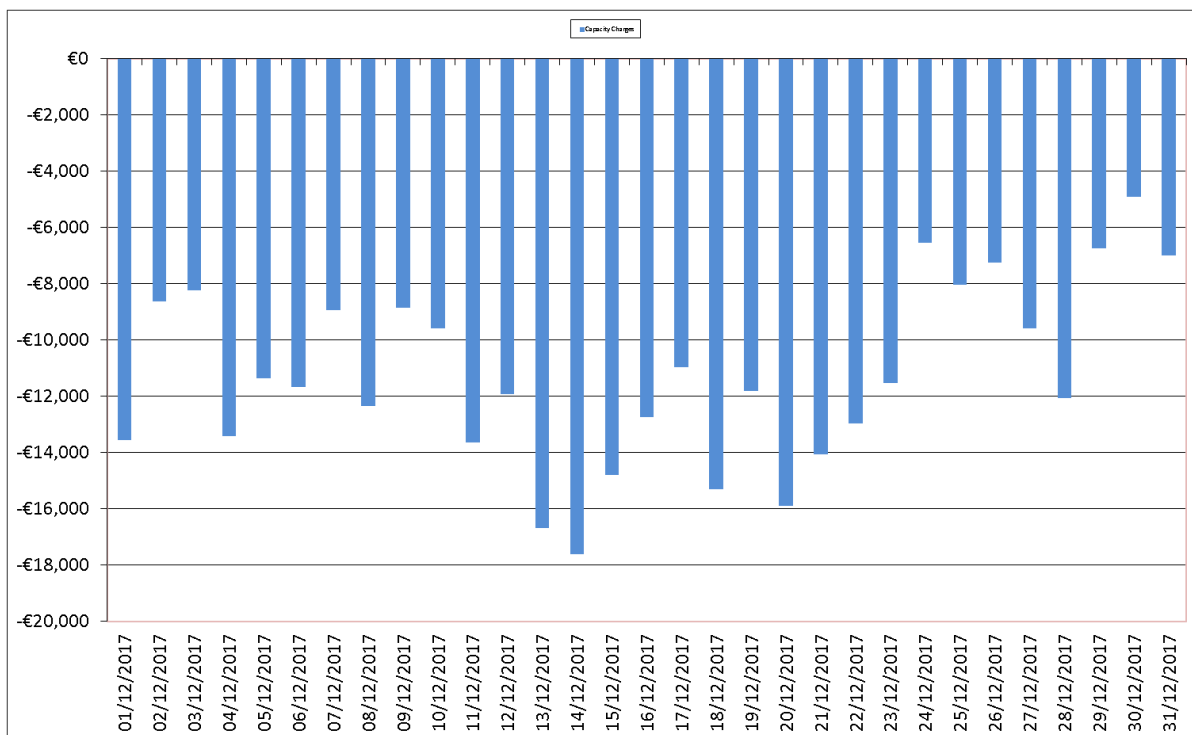


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement –December 2017

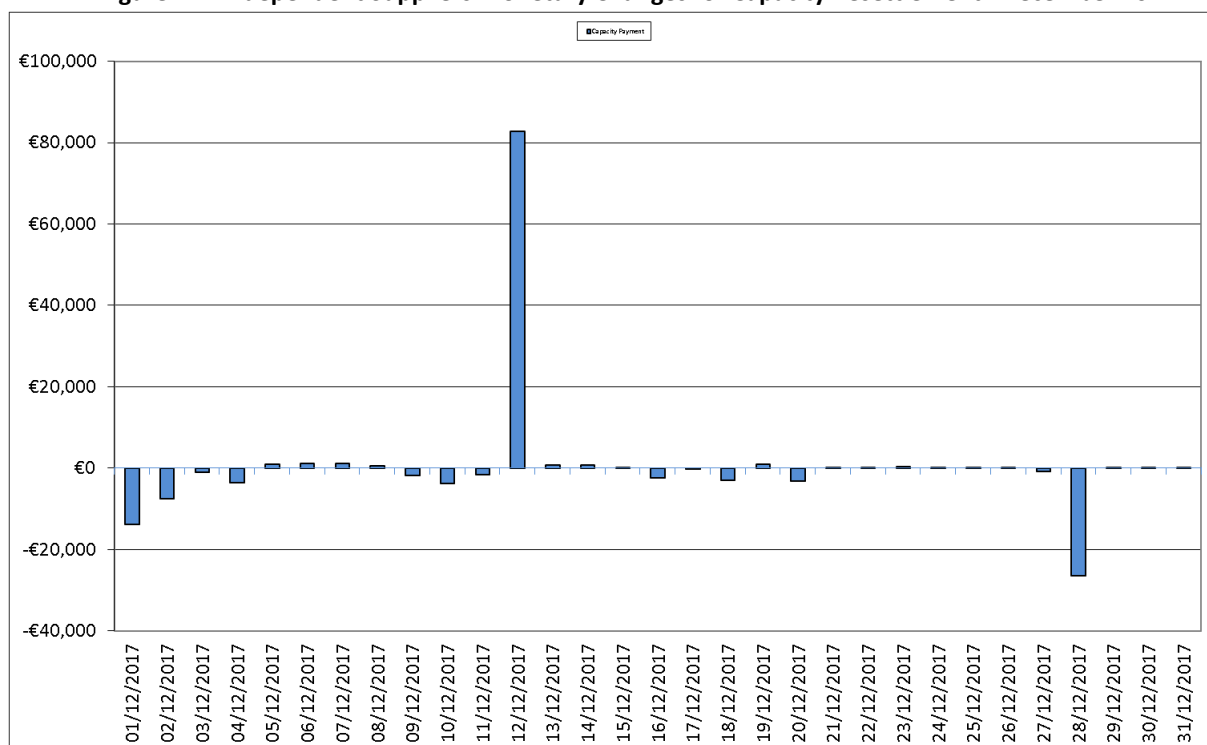


Figure 12 - All Generation Monetary Change for Capacity Resettlement – December 2017

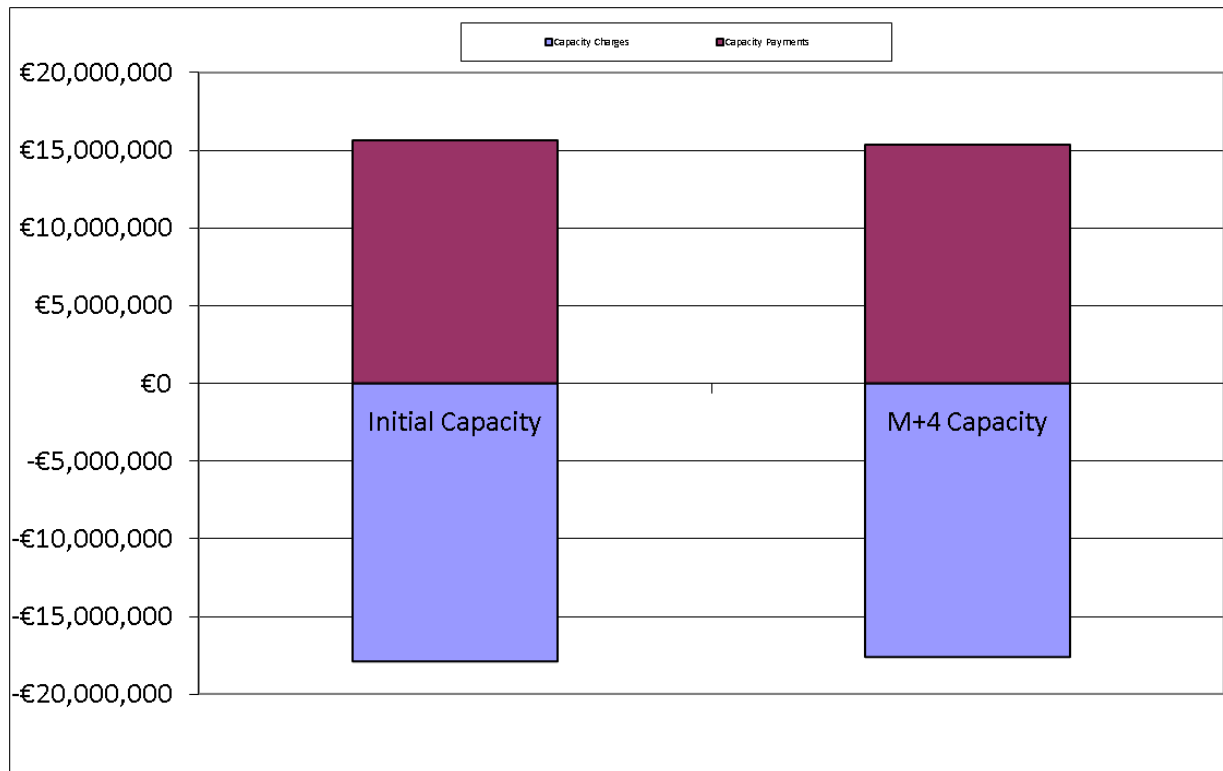


Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement December 2017.

The above graph demonstrates that due to all the individual changes to payment and charge amounts on a Supplier or Generator Unit basis, the overall Capacity Market resettlement Charge and Payment amounts have not changed due to resettlement.

M+13 Resettlement

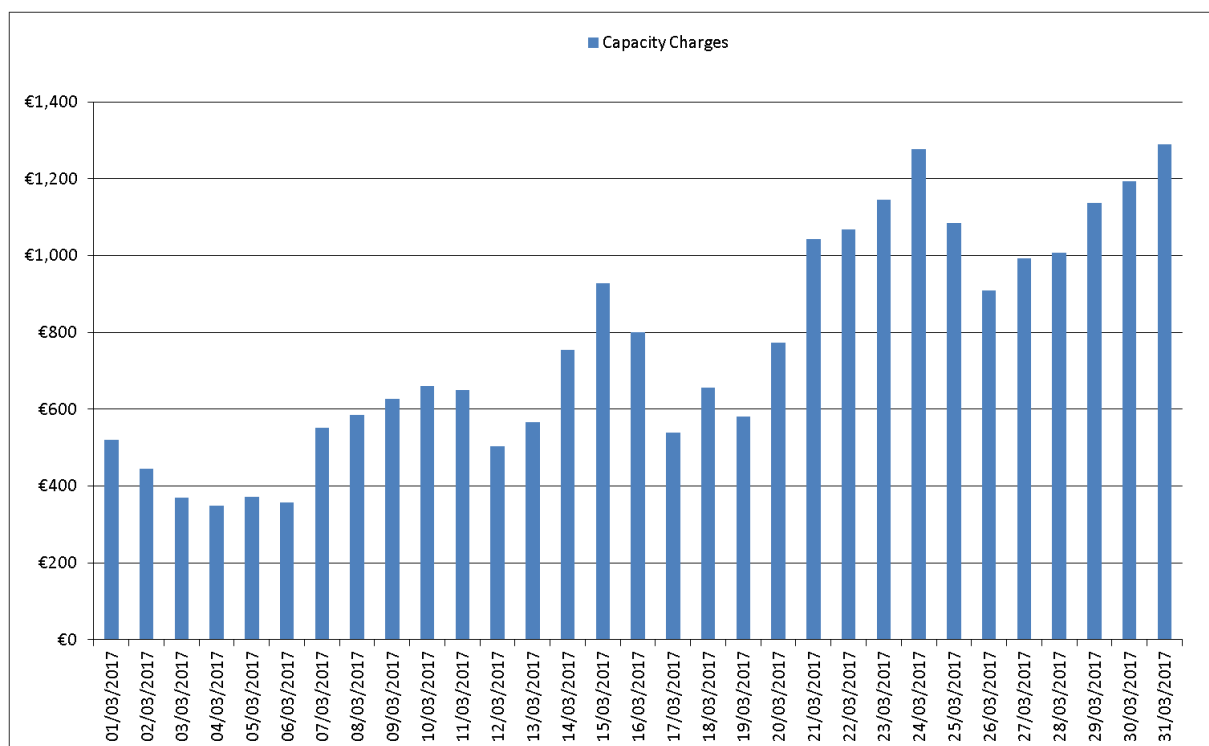


Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement - March 2017.

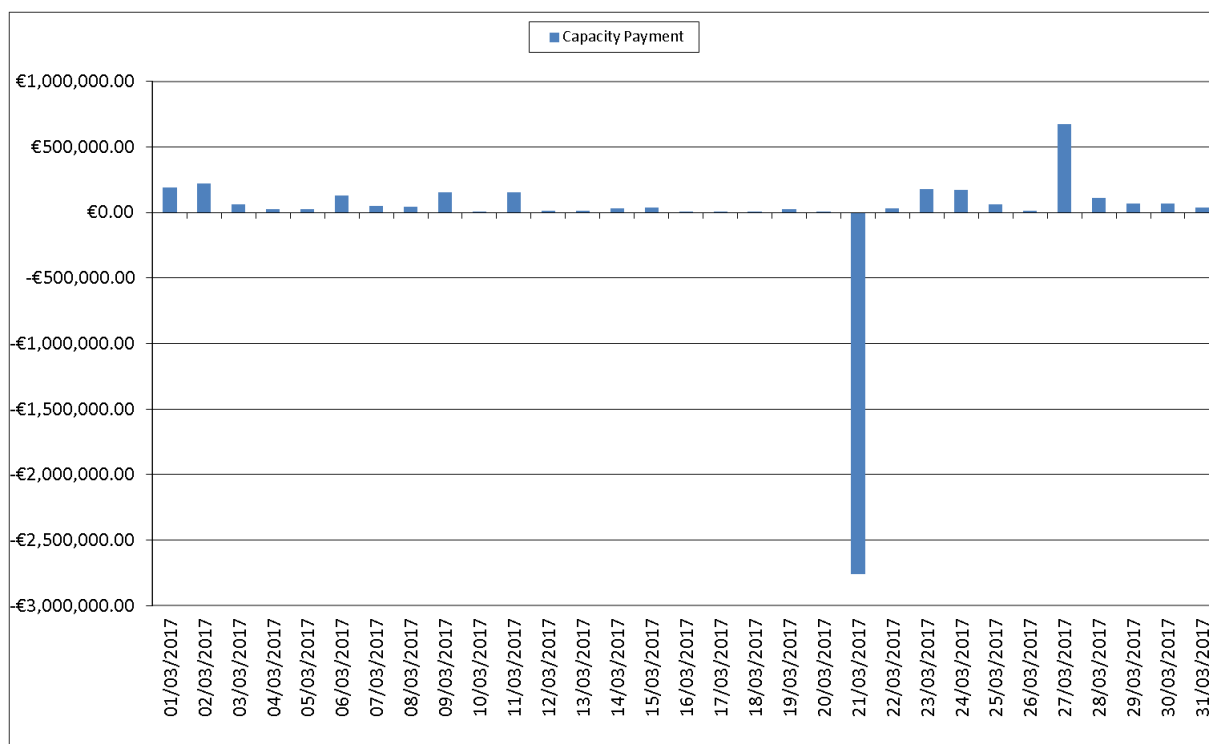


Figure 15 – All Generation Monetary Change for Capacity Resettlement – March 2017.

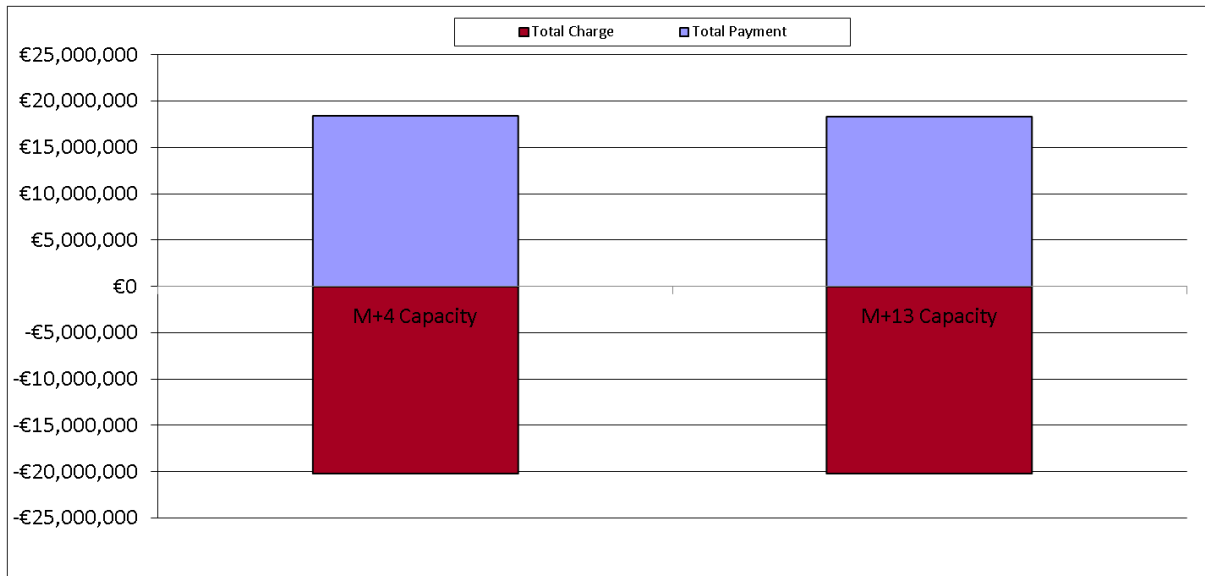


Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – March 2017.

Helpdesk Call Statistics

The statistics presented in Table 10 - Helpdesk Call Statistics covers the month of April 2018.

Market Helpdesk Report: 01/04/18 to 30/04/18

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	169	148	21	182	5.84	165
Important	2	1	1	2	4.77	1
Urgent	0	0	0	0	0.00	0
Settlement	8	7	1	10	4.77	10
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	0	0.00	0
Data	0	0	0	0	0.00	0
Total/Average	179	156	23	194	3.08	176

Table 10 – Helpdesk Statistics

Definitions:

- Resolved within the Period refers to queries raised and resolved within the calendar month of April 2018.
- Resolved in the Period refers to queries resolved within April 2018, and includes queries raised before this time.
- Resolution Time (Working Days) refers to average time to resolve, in working days, for this category of query. It is calculated based on all queries for the category, not just April 2018.
- Not Resolved refers to queries raised but not resolved within April 2018.
- Urgent are general queries which may have an impact on market operations. SEMO has an internal objective to resolve these within 3 working days; however, this is not a mandated service level under the Trading and Settlement Code.
- Disputes are where a dispute has been raised over the outcome of a data or settlement query.

The average resolution time for General Queries has increased by 4.49 working days from 1.33 in March 2018 to 5.82 in April 2018. SEMO has a metric to resolve General Queries within 20 Working Days. These include queries received over the phone and e-mail.

Data and Settlement Queries generally continue to be responded to within the timelines required by the Trading and Settlement Code, i.e. one calendar month. No Formal Query timeline extensions were required during April 2018 with regard to formal Settlement Queries.

Disputes and Queries

5.1.1 Disputes

No Disputes were raised during the month of April 2018.

Topic	Number Of Queries

Table 11– Upheld Dispute Queries by Topic

5.1.2 Data Queries

No formal data queries were received during the month of April 2018.

Topic	Number Of Queries

Table 12– Upheld Data Queries by Topic

5.1.3 Settlement Queries

There were eight formal Settlement queries raised in April 2018. Two queries were upheld and have since been resolved. Three queries were not upheld.

Topic	Number Of Queries
Meter Generation	2

Table 13 – Upheld Settlement Queries by Topic

- Two queries relating to Meter Generation were raised. This is to be corrected within M+4 resettlement. Both were deemed to be of Low Materiality.

Unresolved Queries

There are no unresolved settlement queries as of the 15th of May 2018.

A full list of all the Data and Settlement queries raised is contained in [Appendix B](#).

Central Systems

6.1 Proportion of Default Data Used

On review of the Commercial Offer Data used in the MSP runs, 57.95% of data used was submitted by Participants through the normal Bid-Offer process. 42.05% of the data used was based on Standing Commercial Offer Data. 0.0% of the data used was based on adjusted offer data. None of the data used was based on Default Commercial Offer Data (Default differs from Standing in that it is based on the initial Default data submitted during registration process and not on more recent Standing Data submitted by the Participant through the Market Participant Interface). Details by unit are provided in [Appendix F](#).

6.2 Proportion of Estimated Meter Data used in Initial Settlement and Resettlement

This is not calculable presently.

6.3 List of System Errors and Re-runs

Details are provided in [Appendix C](#): List of All Systems Errors and Failures

6.3.1 Re-Pricing / Resettlement Runs / MIUN Delays

There was no Re-Price carried out in April 2018.

There was no Ad hoc Re-Settlement run carried out in April 2018.

There were no delays to MIUNs for April 2018.

6.3.2 System Errors

There were no Market Application defects found in April 2018.

Details are provided in [Appendix C](#): List of All Systems Errors and Failures

6.4 Operational Timings

This section lists the operation timings of MSP software runs and Settlement runs.

There are five run types for MSP software,

- Ex-Ante 1 Indicative, run on Trading Day – 1 calendar day,
- Ex-Ante 2 Indicative, run on Trading Day – 1 calendar day,
- With In Day 1 Indicative, run on Trading Day,
- Ex-Post Indicative, run on Trading Day + 1 calendar day, and
- Ex-Post Initial, run on Trading Day + 4 calendar days.

The following tables and graphs provide details for the postings of the MSP for April 2018.

1.4.1 MSP Postings April 2018

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close	30-30	0	0	0
Post EA1	30-30	0	0	0
Post EA2	30-30	0	0	0
Post WD1	30-30	0	0	0
Post EP1	30-30	0	0	0
Post EP2	30-30	0	0	0

Table 14 - Operational Timings

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close	100%	0%	0%	0%
Post EA1	100%	0%	0%	0%
Post EA2	100%	0%	0%	0%
Post WD1	100%	0%	0%	0%
Post EP1	100%	0%	0%	0%
Post EP2	100%	0%	0%	0%

Table 15 - Operational Timings (% on time)

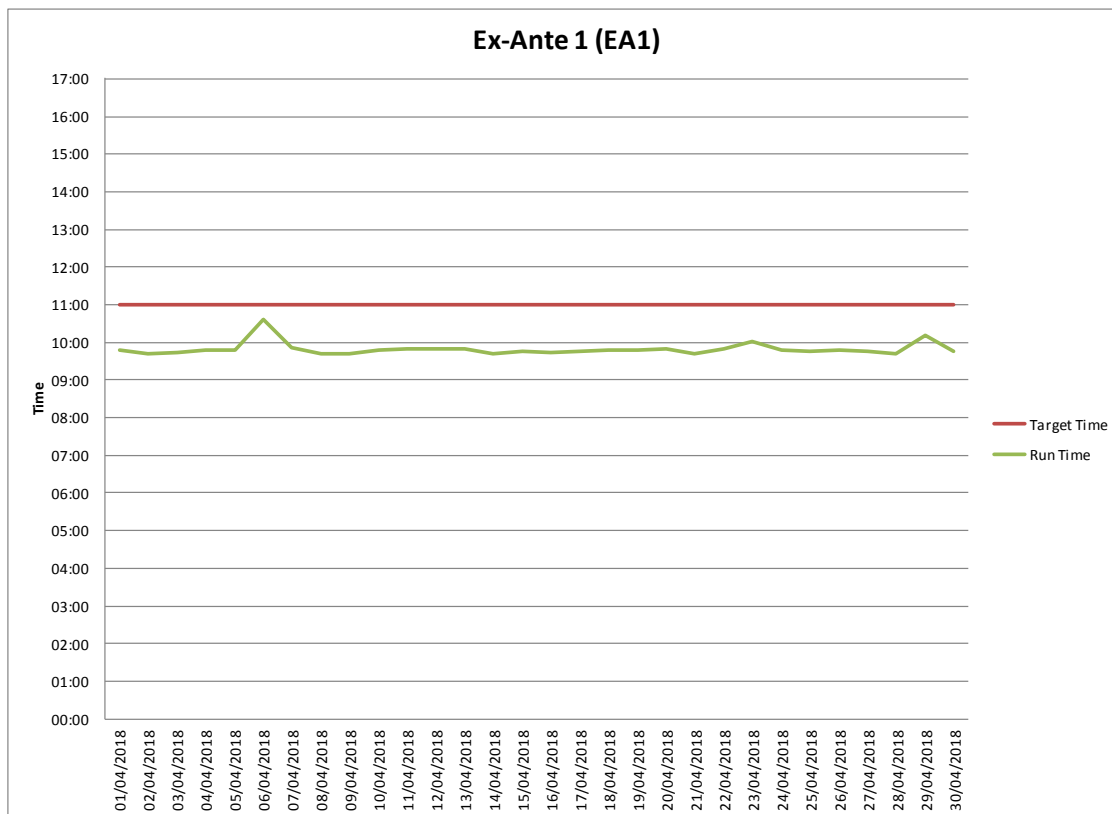


Figure 17 – Ex-Ante 1

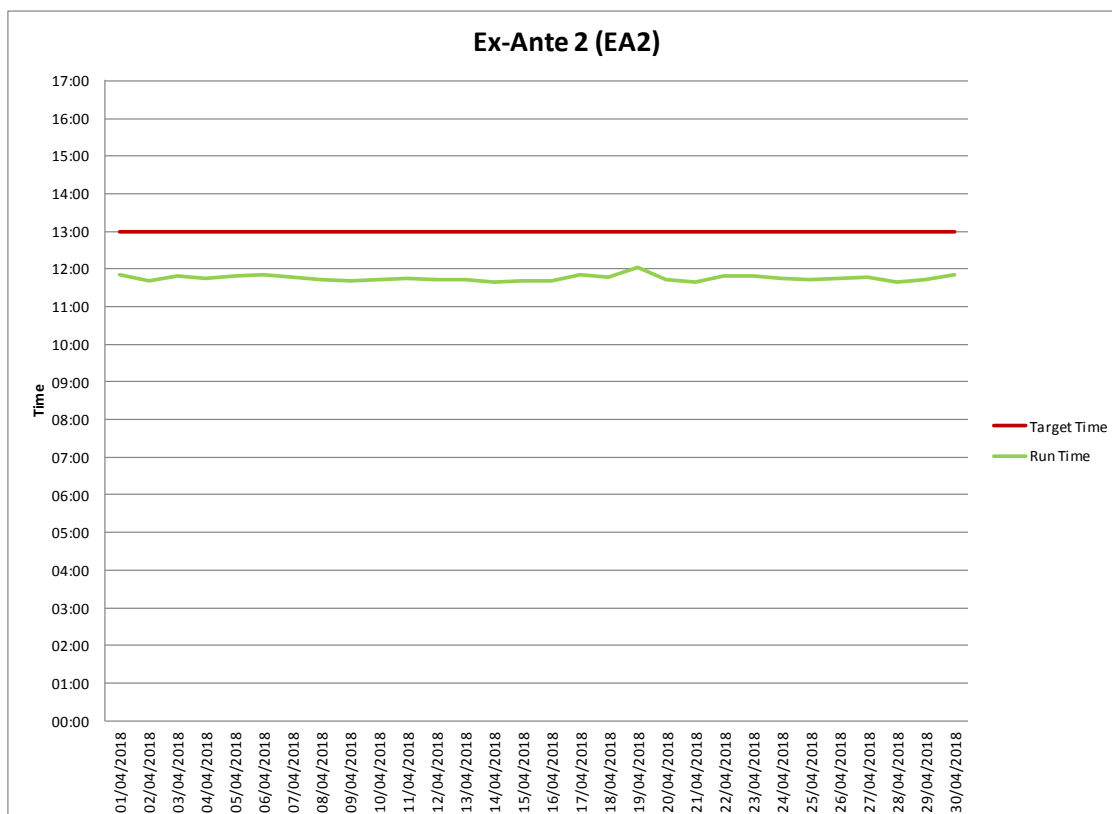


Figure 18 – Ex-Ante 2

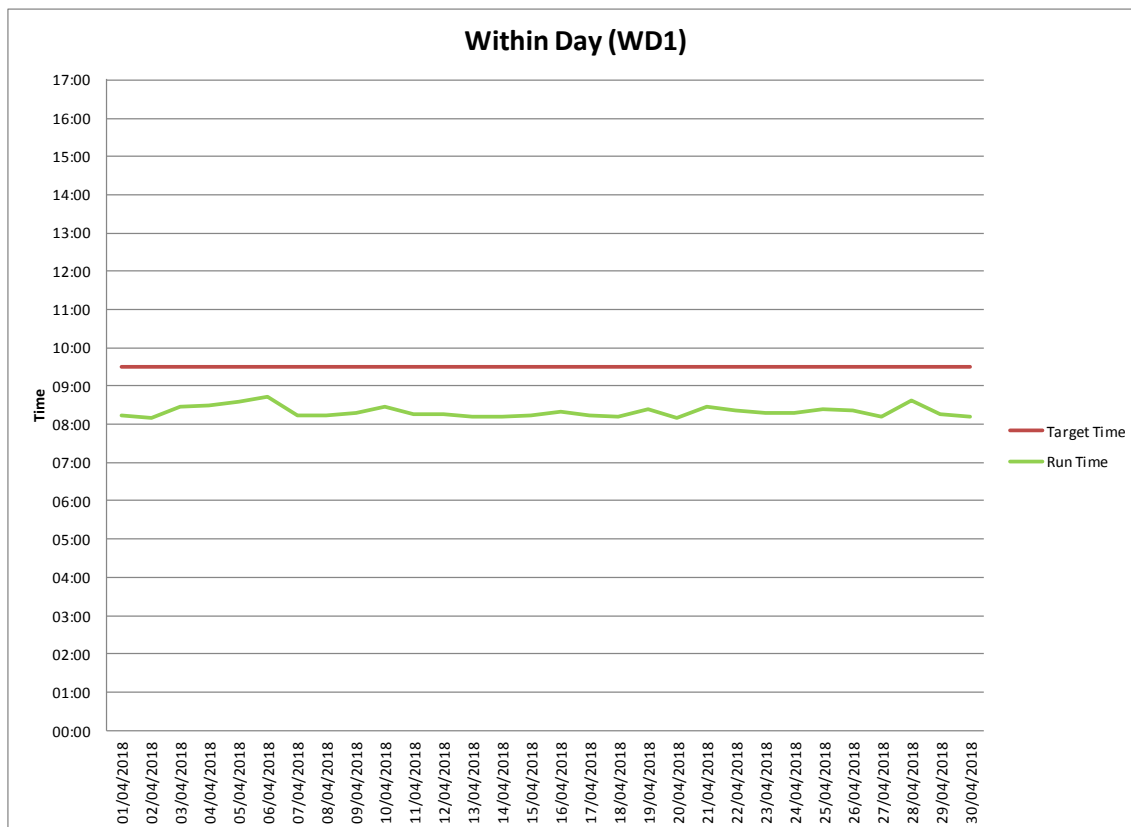


Figure 19 – Within Day 1

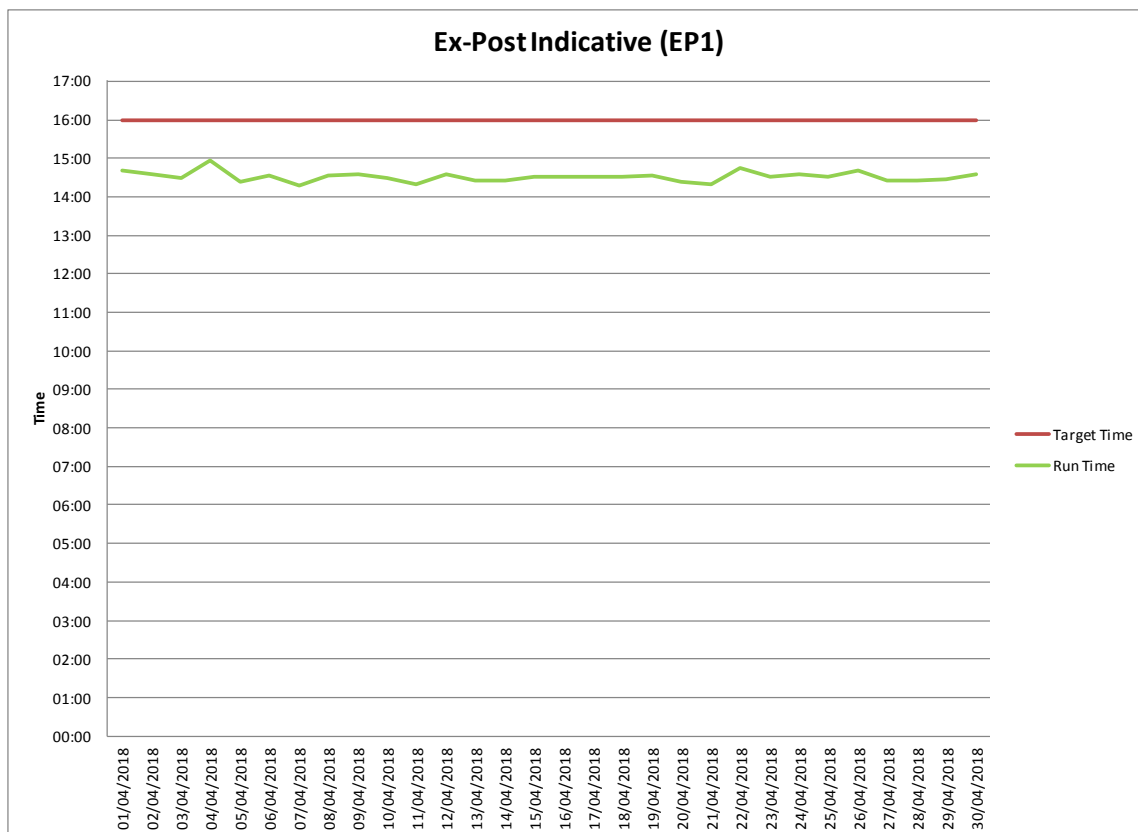


Figure 20 - Ex-Post Indicative

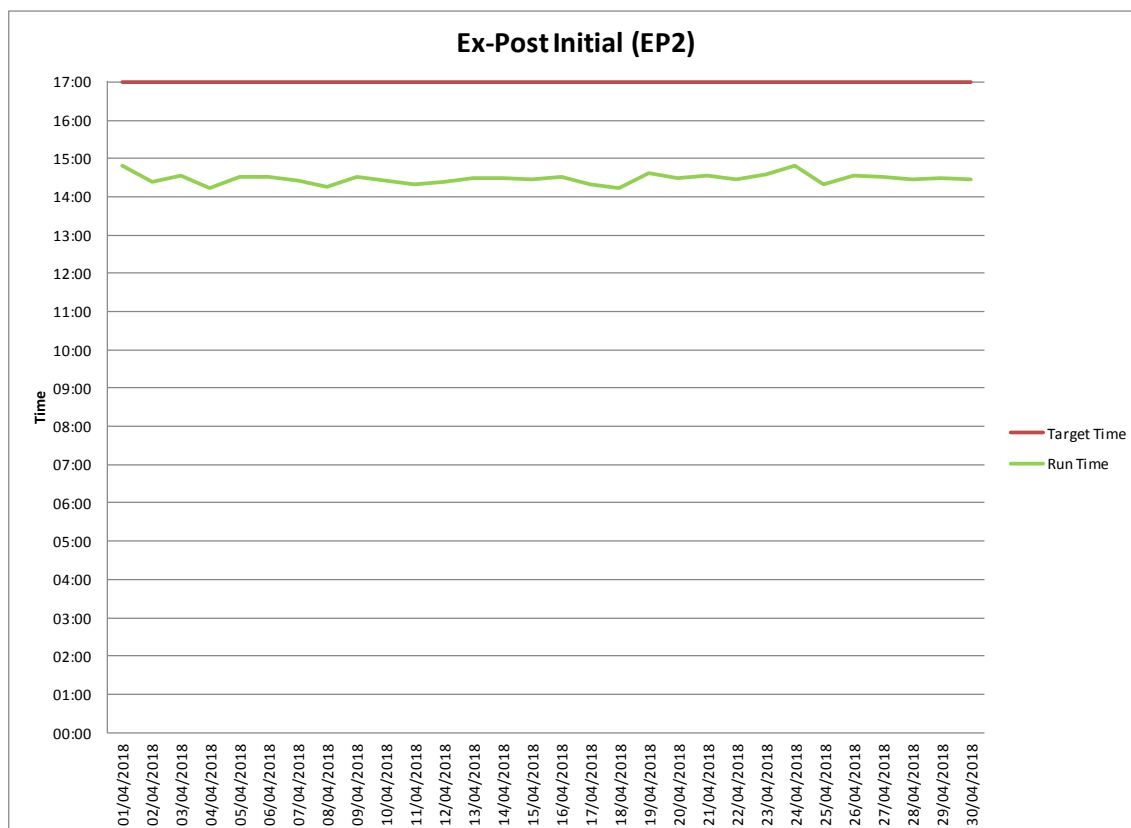


Figure 21 - Ex-Post Initial

Details of the operational timings of the Market System and Price (MSP) runs and Gate Closure are provided in [Appendix D](#).

6.4.2 MSP Algorithms

The Market Operator has two different certified solvers used to determine Unit Commitment. These solvers use the Lagrangian Relaxation (LR) and Mixed Integer Programming (MIP) methodologies.

The primary solver used in the SEM is Lagrangian Relaxation (LR). Under certain schedule outcomes where a significant pricing event is observed, the MSP software is re-run using the Mixed Integer Programming (MIP) solver. The outcomes of the two solvers are compared. Where solution determined using the MIP solver provides a better overall solution, this solution may be selected for publishing. An updated policy document on the use of MIP has been published and is available on the SEMO website [here](#).

In April 2018, there were 2 instances of publishing with the MIP solver. A detail of historical runs and dates where the MIP algorithm has been used for published results is provided in [Appendix I](#).

1.4.1 Settlement Postings April 2018

The publication timings for Settlement runs are provided below.

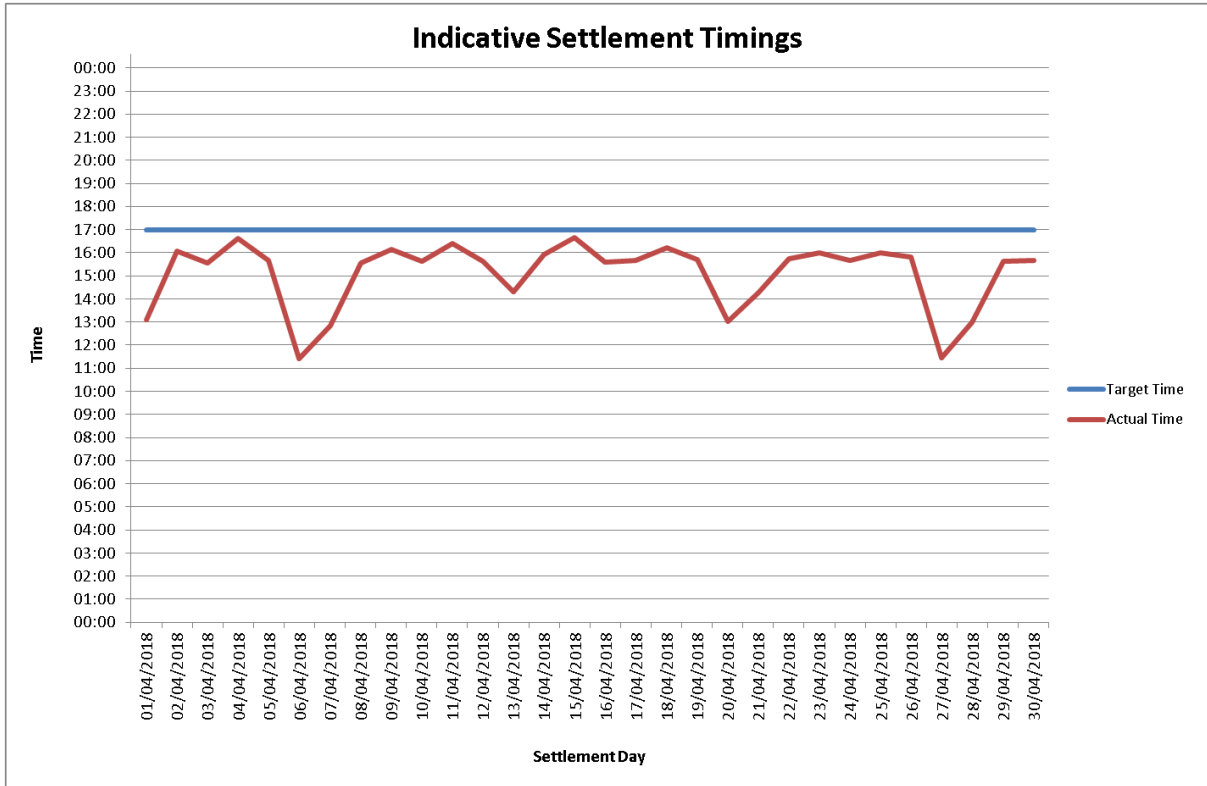


Figure 22 - Indicative Settlement Postings

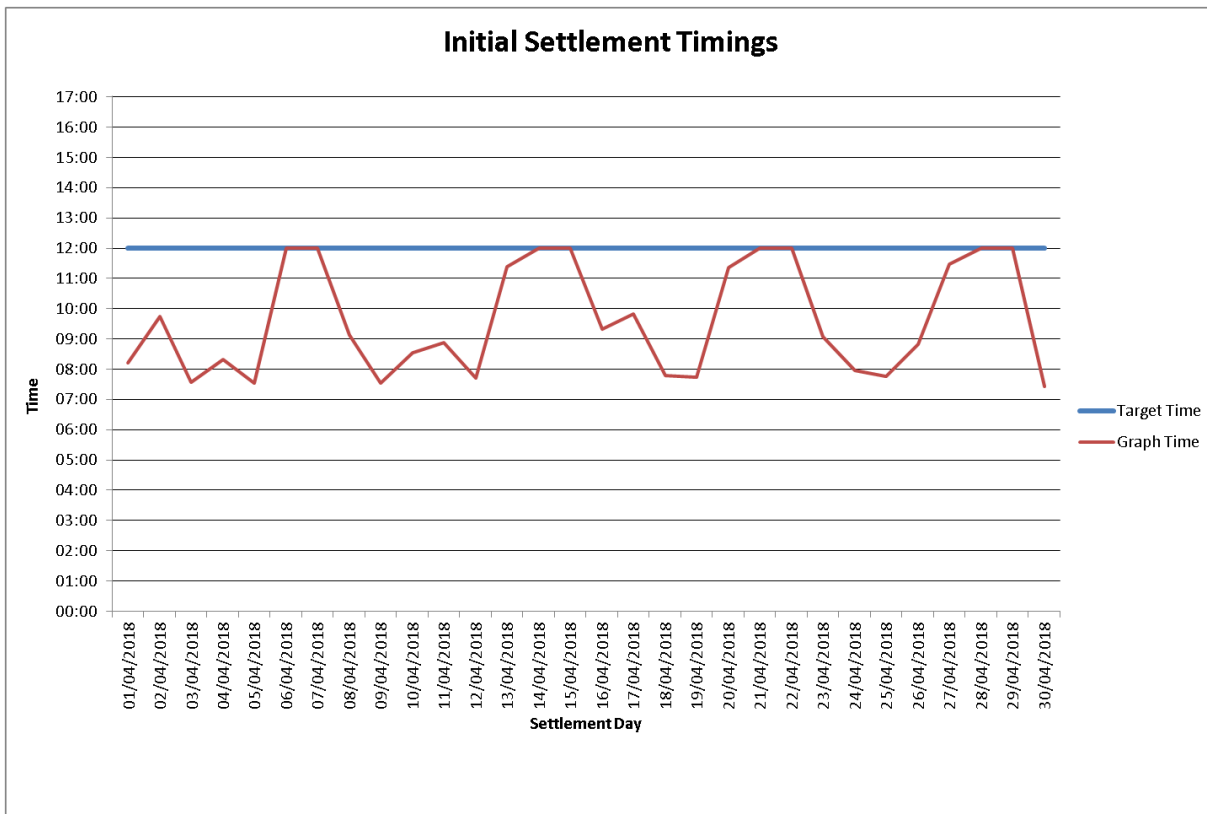


Figure 23 - Initial Settlement Postings

Further details of any delays noted above are provided in [Appendix A](#)

6.5. – No update for April 2018

Occasional Components

7.1 Disaster Recovery/Business Continuity Tests

There were no scheduled Business Continuity tests performed during April 2018.

7.2 Communications or Systems Failures

There were no communication failures during April 2018.

7.3 Denial of Service Attacks

There was no Denial of Service Attacks during April 2018.

7.4 Submission of Parameters to RAs for Approval

Work on confirming the extension of SEM parameters in the context the new I-SEM go live date of 1st October was ongoing during April 2018.

Appendix A: Detail of Trading and Settlement Code Breaches

Data Provider

There were no breaches to report in April 2018.

Market Participant

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
18/04/2018	Money In	Timing	Participant	Payment Default	Electricity Exchange defaulted on Energy Week 11 2017 M+13 & Week 58 2017 M+4 Invoices.	Participant Error	A default letter was issued.	Major
18/04/2018	Money In	Timing	Participant	Payment Default	Arden Energy (PT_400149) defaulted on an Energy Week 13 2018 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
16/04/2018	Money In	Timing	Participant	Payment Default	Castledockrell Wind Group Ltd defaulted on Capacity March 2018 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
11/04/2018	Money In	Timing	Participant	Payment Default	Just Energy (Ireland) Limited (PT_400211) defaulted on Energy Week 12 2018 Initial & Week 49 2017 M+4 Invoices.	Participant Error	A default letter was issued to the Participant.	Major
06/04/2018	Money In	Timing	Participant	Payment Default	Gortmullan Energy Limited (PT_500077) defaulted on an Capacity February 2017 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
06/04/2018	Money In	Timing	Participant	Payment Default	Dan Twomey Waterpower Engineering Ltd. (PT_400045) defaulted on an Capacity February 2017 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
06/04/2018	Money In	Timing	Participant	Payment Default	Dan Twomey Waterpower Engineering Ltd. (PT_400045) defaulted on an Energy Week 11 2018 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major

Table 16 – Trading and Settlement Code Breaches – Market Participants

SEMO – Settlements

There were no breaches to report in April 2018.

SEMO - Pricing and Scheduling

There were no breaches to report in April 2018.

SEMO - Funds Transfer

There were no breaches to report in April 2018.

SEMO - Credit Management

There were no breaches to report in April 2018.

SEMO – Other

There were no breaches to report in April 2018.

Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Meter Generation	GU_400470 Carnsore Windfarm. Missing M.G. GU_400470 Carnsore Windfarm. Missing M.G. This windfarm was off from 8a.m. on 18th Dec 2017 until 19th December at 17:00. However, settlement data show the unit to be from 02:30 on 18th Dec 2017. Please advise.	F0077964	2018-04-05	2018-04-05	Settlement
Meter Data	GU_402080 (Moneypoint Windfarm). Moneypoint windfarm was off from 17/12/2017 (10:30-11:30). However, settlement data show the unit off from 17/12/2017 (19:30) to 18/12/2017 (05:00)	F0077965	2018-04-05	2018-04-05	Settlement
Meter Data	The Ballylumford B10 Main Meter was powered down during 18th March resulting in an incorrect value being submitted to SEMO for period starting 07:30. Please see attached spreadsheet with Main and Check meter values for this period – the check meter value should be used for settlement	F0077974	2018-04-05	2018-04-06	Settlement
Capacity	Erne Units GU_400210 GU_400211 GU_400220 GU_400221. Querying EA values for Capacity month March 2018, Erne Units GU_400210 GU_400211 GU_400220 GU_400221. These units all declared full availability for March 2018, (except GU_400211 which declared zero from 5.3.2018 to 14.3.2018) but this does not compare with settlement data for March. ESB calculate for the 4 units for March an approx value of 7320k but was actually paid 7136k. Please advise.	F0078150	2018-04-16	2018-04-18	Settlement
Meter Generation	Incorrect Meter data has been provided by SONI for AGU Unit GU_500904. A set of dispatch instructions was incorrect on the 31/03/2018.	F0078170	2018-04-17	2018-01-11	Settlement
Dispatch Quantities	GU_400370 (VVO4). High U.I.'s incurred between the time 07:00 to 08:30 on 27th March 2018. GU_400370 (VVO4). VVO4 submitted a new TOD which came into effect on 26th March, to include a dwell point at 105/92mw and a soak time of 45 minutes. The unit followed this new TOD on 27th March (07:00-08:30) but incurred high U.I.'s as a result. Please advise.	F0078261	2018-04-23	2018-04-23	Settlement
Meter Data	GU_400240 (LR4). Incurred high Uninstructed Imbalances on 27th March from 01:00 - 02:30. GU_400240 (LR4). Dispatch instruction issued at 01:04 to go to 32mw exported. The unit followed it's TOD and soaked at 62mw for 90 mins. However, dispatch instruction did not follow this profile resulting in high U.I.'s.	F0078264	2018-04-23	2018-04-23	Settlement
Meter Data	GU_402080 (Moneypoint Windfarm). As per settlement data this windfarm was off for the period 20th Dec 2017 from 07:30-14:30. However according to our data the windfarm was off for only 2 half hour periods, 10:30 to 11:30. Please advise.	F0078278	2018-04-24	2018-04-25	Settlement

Table 17- Formal Queries

Appendix C: List of All System Errors and Failures

The definitions of the statuses used for the List of All System Errors and Failures are:

- In Progress: Fix being identified and implemented.
- Resolved: Fix has been implemented, but reruns have not been performed.
- Closed: Required reruns have been performed and error-failure has been completely rectified.

Note: Items in the List of All System Errors and Failures that have status 'Closed' in this month's report will not appear in subsequent Monthly Market Operator Reports as they are no longer open issues.

There were no Market Application defects found in April 2018.

Issue No.	Description	Effect	Fixed from	Re-Pricing	Resettlement	Status
-	-	-	-	-	-	-

Table 18 - List of System Errors and Failures

Appendix D: Details of Operational Timings

Market Schedule and Price Runs

Operational Day	EA1 Postings		EA2 Postings		WD1 Postings		EP1 Postings		EP2 Postings	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/04/2018	11:00	09:48	13:00	11:50	09:30	08:13	16:00	14:41	17:00	14:49
02/04/2018	11:00	09:42	13:00	11:41	09:30	08:10	16:00	14:36	17:00	14:24
03/04/2018	11:00	09:44	13:00	11:48	09:30	08:27	16:00	14:29	17:00	14:34
04/04/2018	11:00	09:47	13:00	11:45	09:30	08:30	16:00	14:57	17:00	14:13
05/04/2018	11:00	09:47	13:00	11:49	09:30	08:36	16:00	14:24	17:00	14:31
06/04/2018	11:00	10:37	13:00	11:51	09:30	08:43	16:00	14:33	17:00	14:31
07/04/2018	11:00	09:51	13:00	11:46	09:30	08:13	16:00	14:18	17:00	14:26
08/04/2018	11:00	09:42	13:00	11:44	09:30	08:13	16:00	14:33	17:00	14:15
09/04/2018	11:00	09:41	13:00	11:41	09:30	08:17	16:00	14:35	17:00	14:31
10/04/2018	11:00	09:47	13:00	11:43	09:30	08:28	16:00	14:29	17:00	14:25
11/04/2018	11:00	09:49	13:00	11:45	09:30	08:15	16:00	14:20	17:00	14:20
12/04/2018	11:00	09:49	13:00	11:44	09:30	08:16	16:00	14:35	17:00	14:23
13/04/2018	11:00	09:50	13:00	11:43	09:30	08:12	16:00	14:26	17:00	14:29
14/04/2018	11:00	09:42	13:00	11:40	09:30	08:11	16:00	14:25	17:00	14:30
15/04/2018	11:00	09:45	13:00	11:42	09:30	08:13	16:00	14:31	17:00	14:28
16/04/2018	11:00	09:44	13:00	11:42	09:30	08:20	16:00	14:32	17:00	14:31
17/04/2018	11:00	09:45	13:00	11:50	09:30	08:13	16:00	14:32	17:00	14:19
18/04/2018	11:00	09:48	13:00	11:46	09:30	08:12	16:00	14:31	17:00	14:14
19/04/2018	11:00	09:47	13:00	12:02	09:30	08:23	16:00	14:34	17:00	14:37
20/04/2018	11:00	09:49	13:00	11:44	09:30	08:10	16:00	14:24	17:00	14:30
21/04/2018	11:00	09:42	13:00	11:40	09:30	08:28	16:00	14:19	17:00	14:34
22/04/2018	11:00	09:50	13:00	11:48	09:30	08:21	16:00	14:45	17:00	14:28
23/04/2018	11:00	10:02	13:00	11:49	09:30	08:18	16:00	14:32	17:00	14:36
24/04/2018	11:00	09:47	13:00	11:45	09:30	08:18	16:00	14:36	17:00	14:49
25/04/2018	11:00	09:46	13:00	11:44	09:30	08:23	16:00	14:32	17:00	14:20
26/04/2018	11:00	09:47	13:00	11:45	09:30	08:21	16:00	14:40	17:00	14:34
27/04/2018	11:00	09:46	13:00	11:46	09:30	08:11	16:00	14:26	17:00	14:31
28/04/2018	11:00	09:41	13:00	11:40	09:30	08:38	16:00	14:25	17:00	14:28
29/04/2018	11:00	10:12	13:00	11:44	09:30	08:16	16:00	14:27	17:00	14:29
30/04/2018	11:00	09:46	13:00	11:50	09:30	08:11	16:00	14:35	17:00	14:27

Table 19 – MSP Runs

Market Operator Monthly Report

Settlement Runs

Indicative				Initial			
Trading Day	Actual Date	Target Time	Actual Time	Trading Day	Actual Date	Target Time	Actual Time
01/04/2018	03/04/2018	17:00	13:07	01/04/2018	06/04/2018	12:00	08:12
02/04/2018	03/04/2018	17:00	16:04	02/04/2018	09/04/2018	12:00	09:45
03/04/2018	04/04/2018	17:00	15:34	03/04/2018	10/04/2018	12:00	07:34
04/04/2018	05/04/2018	17:00	16:37	04/04/2018	11/04/2018	12:00	08:19
05/04/2018	06/04/2018	17:00	15:41	05/04/2018	12/04/2018	12:00	07:33
06/04/2018	09/04/2018	17:00	11:24	06/04/2018	13/04/2018	12:00	12:00
07/04/2018	09/04/2018	17:00	12:51	07/04/2018	13/04/2018	12:00	12:00
08/04/2018	09/04/2018	17:00	15:34	08/04/2018	13/04/2018	12:00	09:08
09/04/2018	10/04/2018	17:00	16:09	09/04/2018	16/04/2018	12:00	07:33
10/04/2018	11/04/2018	17:00	15:38	10/04/2018	17/04/2018	12:00	08:32
11/04/2018	12/04/2018	17:00	16:25	11/04/2018	18/04/2018	12:00	08:53
12/04/2018	13/04/2018	17:00	15:38	12/04/2018	19/04/2018	12:00	07:43
13/04/2018	16/04/2018	17:00	14:19	13/04/2018	20/04/2018	12:00	11:23
14/04/2018	16/04/2018	17:00	15:56	14/04/2018	20/04/2018	12:00	12:00
15/04/2018	16/04/2018	17:00	16:39	15/04/2018	20/04/2018	12:00	12:00
16/04/2018	20/03/2018	17:00	15:36	16/04/2018	23/04/2018	12:00	09:19
17/04/2018	20/03/2018	17:00	15:39	17/04/2018	24/04/2018	12:00	09:50
18/04/2018	20/03/2018	17:00	16:14	18/04/2018	25/04/2018	12:00	07:47
19/04/2018	20/04/2018	17:00	15:43	19/04/2018	26/04/2018	12:00	07:44
20/04/2018	23/04/2018	17:00	13:01	20/04/2018	27/04/2018	12:00	11:21
21/04/2018	23/04/2018	17:00	14:16	21/04/2018	27/04/2018	12:00	12:00
22/04/2018	23/04/2018	17:00	15:44	22/04/2018	27/04/2018	12:00	12:00
23/04/2018	24/04/2018	17:00	15:59	23/04/2018	30/04/2018	12:00	09:04
24/04/2018	25/04/2018	17:00	15:40	24/04/2018	01/05/2018	12:00	07:57
25/04/2018	26/04/2018	17:00	15:59	25/04/2018	02/05/2018	12:00	07:46
26/04/2018	27/04/2018	17:00	15:48	26/04/2018	03/05/2018	12:00	08:50
27/04/2018	30/04/2018	18:00	11:28	27/04/2018	04/05/2018	12:00	11:29
28/04/2018	30/04/2018	19:00	12:59	28/04/2018	04/05/2018	12:00	12:00
29/04/2018	30/04/2018	19:00	15:38	29/04/2018	04/05/2018	12:00	12:00
30/04/2018	01/05/2018	19:00	15:40	30/04/2018	08/05/2018	12:00	07:25

Table 20 – Settlement Runs

Appendix E: Imperfections Charge

This appendix provides daily data for the Constraint Payments, Uninstructed Imbalance Payments and Imperfections Charges, and as well as the weekly values of Make Whole Payments and Testing Charges.

The following table is updated to take account of the values calculated in the Initial Settlement runs only.

Historical information will be shown in Appendix E until completion of the current financial year. Information prior to that can be found in previous Monthly Market Operator Reports.

Date	Constraint Payments	Uninstructed Imbalance Payments	Imperfections Charges
01/10/2017	€1,128,237.48	€1,576.89	-€378,357.91
02/10/2017	€753,728.56	-€6,605.15	-€425,189.34
03/10/2017	€675,919.11	-€28,147.68	-€459,383.40
04/10/2017	€790,094.79	-€12,276.51	-€454,836.20
05/10/2017	€598,243.60	€562.44	-€459,293.23
06/10/2017	€978,560.07	-€29,473.35	-€470,365.91
07/10/2017	€685,778.92	€16,406.92	-€422,341.15
08/10/2017	€606,589.61	-€1,693.38	-€428,179.56
09/10/2017	€628,023.58	-€25,009.27	-€472,072.33
10/10/2017	€661,294.91	-€12,088.17	-€459,471.05
11/10/2017	€856,913.05	€4,366.95	-€454,481.54
12/10/2017	€554,696.70	-€4,132.36	-€460,499.75
13/10/2017	€509,204.72	€8,000.04	-€455,413.62
14/10/2017	€589,155.41	€19,834.27	-€422,296.60
15/10/2017	€532,349.25	-€2,895.36	-€408,090.08
16/10/2017	€1,576,989.30	€5,893.68	-€398,171.53
17/10/2017	€321,452.97	-€16,920.37	-€449,831.94
18/10/2017	€534,843.18	-€15,961.49	-€477,249.12
19/10/2017	€697,291.71	-€10,288.42	-€473,258.23
20/10/2017	€604,918.01	-€16,853.47	-€470,091.71

Market Operator Monthly Report

21/10/2017	€910,633.73	-€6,523.05	-€420,863.08
22/10/2017	€746,292.37	-€6,931.78	-€410,457.17
23/10/2017	€583,009.53	€33,581.90	-€477,473.82
24/10/2017	€609,201.47	-€5,455.37	-€486,607.12
25/10/2017	€747,119.39	€5,407.90	-€487,567.97
26/10/2017	€724,380.32	-€9,639.67	-€513,633.27
27/10/2017	€741,948.87	-€21,049.38	-€501,594.81
28/10/2017	€638,373.17	€16,917.71	-€429,220.57
29/10/2017	€504,486.15	€11,661.56	-€430,541.95
30/10/2017	€560,302.03	€18,097.04	-€450,579.60
31/10/2017	€774,526.45	-€7,313.17	-€475,411.26
01/11/2017	€522,537.15	-€54,408.10	-€502,971.73
02/11/2017	€667,226.11	-€1,203.71	-€515,643.12
03/11/2017	€726,570.51	-€25,267.52	-€502,673.40
04/11/2017	€769,822.68	-€9,968.68	-€440,739.94
05/11/2017	€815,933.21	€3,136.73	-€433,513.98
06/11/2017	€869,216.20	-€31,404.29	-€480,267.16
07/11/2017	€968,443.23	-€52,023.59	-€514,093.72
08/11/2017	€1,063,769.89	-€34,250.52	-€523,176.99
09/11/2017	€748,505.97	-€5,215.86	-€501,360.57
10/11/2017	€881,798.99	-€12,788.24	-€493,615.16
11/11/2017	€637,400.22	-€4,835.74	-€472,590.85
12/11/2017	€771,718.43	€63.67	-€431,160.80
13/11/2017	€1,081,045.42	-€42,751.20	-€523,259.42
14/11/2017	€663,735.71	-€22,404.48	-€531,518.99
15/11/2017	€997,262.39	-€1,454.74	-€522,872.63
16/11/2017	€619,867.11	-€12,376.26	-€514,328.91
17/11/2017	€717,301.60	-€19,322.09	-€527,547.76

Market Operator Monthly Report

18/11/2017	€641,678.53	-€12,312.51	-€483,698.00
19/11/2017	€681,550.58	-€210.80	-€457,825.35
20/11/2017	€690,457.41	-€9,436.02	-€502,410.50
21/11/2017	€881,388.63	-€14,900.47	-€505,386.09
22/11/2017	€814,158.91	€21,134.19	-€530,166.05
23/11/2017	€765,003.37	€1,455.10	-€522,381.63
24/11/2017	€746,628.87	-€23,375.05	-€540,392.09
25/11/2017	€727,927.70	-€32,238.40	-€482,715.14
26/11/2017	€1,026,529.88	-€52,461.86	-€463,393.98
27/11/2017	€668,953.92	€8,690.26	-€514,024.06
28/11/2017	€668,857.78	-€23,316.60	-€530,834.78
29/11/2017	€672,507.63	€17,955.74	-€545,922.34
30/11/2017	€873,915.32	-€22,024.34	-€545,436.84
01/12/2017	€490,061.93	-€37,529.60	-€558,052.50
02/12/2017	€735,776.23	-€43,949.95	-€495,965.05
03/12/2017	€863,967.41	-€3,763.51	-€466,912.21
04/12/2017	€540,667.50	-€30,111.37	-€542,729.15
05/12/2017	€570,663.31	-€8,695.06	-€533,471.16
06/12/2017	€1,056,861.68	-€2,868.66	-€505,987.39
07/12/2017	€791,442.49	€35,812.48	-€511,088.42
08/12/2017	€658,684.84	-€22,832.55	-€535,597.53
09/12/2017	€633,297.68	-€10,548.00	-€524,370.77
10/12/2017	€974,343.61	€12,449.52	-€493,040.09
11/12/2017	€858,812.76	-€23,430.21	-€557,015.20
12/12/2017	€661,568.64	-€33,525.06	-€572,922.46
13/12/2017	€969,727.15	-€32,067.79	-€547,643.48
14/12/2017	€826,830.20	-€40,511.63	-€547,119.02
15/12/2017	€492,430.48	-€17,215.00	-€534,149.99

Market Operator Monthly Report

16/12/2017	€593,022.52	-€23,860.19	-€512,250.90
17/12/2017	€510,323.80	-€11,485.40	-€475,824.38
18/12/2017	€381,066.43	-€25,323.29	-€554,350.08
19/12/2017	€408,521.30	-€26,218.06	-€530,127.96
20/12/2017	€589,087.85	-€24,212.41	-€541,635.65
21/12/2017	€395,008.92	-€15,727.05	-€528,633.55
22/12/2017	€704,163.60	-€29,023.77	-€502,975.18
23/12/2017	€605,894.69	-€2,097.68	-€446,615.17
24/12/2017	€745,480.37	-€2,837.73	-€417,920.96
25/12/2017	€505,582.39	€28,749.08	-€428,742.86
26/12/2017	€494,665.97	-€4,325.18	-€419,663.54
27/12/2017	€511,537.54	-€16,064.34	-€451,850.34
28/12/2017	€467,815.85	-€33,753.24	-€501,168.94
29/12/2017	€482,934.53	-€17,451.57	-€469,482.14
30/12/2017	€658,719.76	-€12,195.60	-€451,320.89
31/12/2017	€904,660.41	-€40,768.23	-€425,145.60
01/01/2018	€775,208.86	-€10,640.96	-€419,530.35
02/01/2018	€922,626.05	-€44,248.00	-€485,871.83
03/01/2018	€904,404.93	-€18,470.33	-€505,911.62
04/01/2018	€725,077.05	-€15,779.87	-€531,010.75
05/01/2018	€640,798.97	€7,789.61	-€537,058.78
06/01/2018	€610,789.68	€4,051.32	-€477,798.09
07/01/2018	€688,000.68	-€22,364.69	-€479,227.00
08/01/2018	€589,926.31	-€170.49	-€534,857.69
09/01/2018	€694,966.79	-€1,675.99	-€535,114.79
10/01/2018	€402,382.71	-€31,199.83	-€569,704.58
11/01/2018	€632,040.94	-€44,137.51	-€566,701.32
12/01/2018	€759,337.10	-€17,732.30	-€506,319.53

Market Operator Monthly Report

13/01/2018	€572,312.20	-€15,711.00	-€479,697.73
14/01/2018	€791,290.51	-€3,023.32	-€448,796.82
15/01/2018	€871,334.50	-€1,991.16	-€500,288.14
16/01/2018	€755,258.89	-€9,948.20	-€529,605.64
17/01/2018	€809,885.00	-€4,644.94	-€541,765.49
18/01/2018	€651,083.41	-€15,048.94	-€543,035.16
19/01/2018	€980,820.52	-€35,475.47	-€542,052.53
20/01/2018	€781,591.50	-€6,285.19	-€512,776.02
21/01/2018	€608,994.29	€7,307.58	-€463,736.30
22/01/2018	€575,618.47	-€6,551.94	-€517,831.32
23/01/2018	€896,302.79	-€7,389.49	-€496,860.62
24/01/2018	€629,768.31	-€1,477.38	-€501,551.23
25/01/2018	€596,738.71	-€8,426.56	-€521,626.72
26/01/2018	€480,919.87	-€9,989.15	-€534,089.78
27/01/2018	€841,553.07	-€6,094.47	-€454,557.11
28/01/2018	€1,374,400.45	€1,518.44	-€427,481.55
29/01/2018	€535,764.79	€59.43	-€511,888.74
30/01/2018	€546,337.65	€35,971.05	-€529,861.07
31/01/2018	€638,281.84	€28,651.29	-€514,816.59
01/02/2018	€605,783.83	€76,252.88	-€517,155.65
02/02/2018	€526,771.26	-€59,486.01	-€539,412.92
03/02/2018	€697,093.47	-€3,403.10	-€469,546.66
04/02/2018	€600,190.56	-€34,664.36	-€477,079.17
05/02/2018	€480,292.36	-€48,622.76	-€556,317.44
06/02/2018	€807,121.00	-€12,158.88	-€541,407.79
07/02/2018	€841,989.92	-€11,272.45	-€564,695.15
08/02/2018	€819,667.40	-€13,240.74	-€542,786.00
09/02/2018	€632,655.24	-€23,398.89	-€527,514.20

Market Operator Monthly Report

10/02/2018	€1,023,520.82	-€23,874.68	-€465,646.42
11/02/2018	€953,601.69	€1,163.67	-€459,202.69
12/02/2018	€940,888.52	-€14,590.82	-€525,142.82
13/02/2018	€762,441.45	-€30,460.93	-€532,396.16
14/02/2018	€799,781.94	-€37,681.25	-€512,397.62
15/02/2018	€662,385.10	-€20,326.90	-€516,927.30
16/02/2018	€408,767.59	€2,876.95	-€523,234.43
17/02/2018	€596,799.99	-€98,483.02	-€495,611.52
18/02/2018	€1,029,823.75	-€26,929.77	-€467,318.77
19/02/2018	€1,097,784.00	-€14,594.86	-€520,192.93
20/02/2018	€524,687.91	-€7,647.53	-€532,938.13
21/02/2018	€735,100.27	€2,533.38	-€548,515.62
22/02/2018	€434,068.15	€1,799.08	-€529,638.08
23/02/2018	€1,010,678.65	€1,983.96	-€500,439.34
24/02/2018	€1,024,739.76	-€5,556.54	-€473,301.48
25/02/2018	€970,771.64	-€7,767.53	-€446,538.82
26/02/2018	€572,758.45	€15,746.25	-€536,825.84
27/02/2018	€1,063,391.46	-€9,774.48	-€558,132.57
28/02/2018	€853,196.97	-€89,425.88	-€539,292.29
01/03/2018	€1,673,576.58	€39,766.24	-€505,992.98
02/03/2018	€2,387,741.41	€57,247.65	-€477,352.17
03/03/2018	€1,850,850.15	-€11,319.52	-€478,505.71
04/03/2018	€679,734.93	-€17,982.83	-€493,636.11
05/03/2018	€525,538.64	-€50,048.77	-€574,984.39
06/03/2018	€466,841.00	-€50,329.88	-€570,179.25
07/03/2018	€436,699.43	-€3,194.18	-€545,326.34
08/03/2018	€457,206.42	-€40,898.33	-€546,318.56
09/03/2018	€667,804.54	-€41,309.38	-€541,700.80

Market Operator Monthly Report

10/03/2018	€579,280.82	-€9,281.61	-€476,237.81
11/03/2018	€600,883.52	-€733.19	-€469,611.25
12/03/2018	€616,524.61	-€42,008.30	-€530,433.67
13/03/2018	€880,333.65	-€28,961.46	-€520,106.43
14/03/2018	€1,074,296.73	-€455.47	-€508,968.98
15/03/2018	€914,920.27	-€31,250.28	-€508,212.21
16/03/2018	€505,224.23	-€6,746.70	-€509,139.88
17/03/2018	€760,355.76	€8,582.12	-€449,759.11
18/03/2018	€873,584.92	-€12,408.31	-€452,945.22
19/03/2018	€491,146.54	-€55,508.98	-€484,017.51
20/03/2018	€555,311.01	-€16,136.62	-€550,631.10
21/03/2018	€513,331.67	-€25,003.30	-€535,584.82
22/03/2018	€559,345.04	-€18,447.02	-€511,885.66
23/03/2018	€590,627.06	-€30,661.41	-€515,058.55
24/03/2018	€474,029.73	€3,486.40	-€477,583.01
25/03/2018	€483,321.55	-€14,141.11	-€439,970.35
26/03/2018	€562,187.38	-€27,584.42	-€509,600.64
27/03/2018	€617,932.24	-€4,537.66	-€494,059.40
28/03/2018	€531,244.22	-€13,750.60	-€519,819.31
29/03/2018	€591,604.63	€173,474.88	-€528,636.87
30/03/2018	€2,048,695.73	-€73,133.41	-€501,729.35
31/03/2018	€2,407,665.11	-€107,253.54	-€472,708.10
01/04/2018	€1,178,541.68	-€38,339.78	-€434,281.27
02/04/2018	€1,380,685.42	€8,159.63	-€439,229.36
03/04/2018	€2,244,475.06	-€70,234.37	-€494,489.66
04/04/2018	€1,365,175.16	-€30,579.05	-€497,607.24
05/04/2018	€1,573,857.83	-€3,899.85	-€505,972.98
06/04/2018	€1,381,828.83	-€13,999.42	-€472,441.22

Market Operator Monthly Report

07/04/2018	€1,161,156.27	-€2,305.86	-€472,166.34
08/04/2018	€1,372,099.63	-€7,122.34	-€452,499.54
09/04/2018	€702,740.43	-€9,167.80	-€498,838.23
10/04/2018	€583,576.21	-€10,737.09	-€500,212.70
11/04/2018	€533,956.19	-€30,802.00	-€524,870.66
12/04/2018	€558,768.74	€7,795.75	-€520,769.44
13/04/2018	€488,973.11	-€21,638.22	-€517,521.80
14/04/2018	€689,192.33	-€56.82	-€437,553.49
15/04/2018	€1,121,156.75	-€29.67	-€403,802.28
16/04/2018	€1,269,708.55	€10,012.98	-€459,294.66
17/04/2018	€1,098,934.94	-€5,035.43	-€452,850.14
18/04/2018	€785,325.38	-€15,097.84	-€456,886.42
19/04/2018	€554,763.30	-€17,661.73	-€480,983.83
20/04/2018	€359,598.13	-€3,970.01	-€471,663.90
21/04/2018	€522,798.70	€3,325.51	-€423,512.91
22/04/2018	€592,109.00	-€4,715.07	-€395,016.70
23/04/2018	€612,121.90	-€13,006.14	-€453,955.74
24/04/2018	€494,605.91	-€6,468.25	-€486,151.47
25/04/2018	€533,625.30	-€62,351.82	-€461,256.28
26/04/2018	€588,971.43	-€48,257.38	-€477,021.89
27/04/2018	€630,654.78	-€40,174.26	-€489,237.37
28/04/2018	€544,063.95	-€28,379.58	-€451,274.97
29/04/2018	€648,268.00	-€22,996.68	-€430,933.71
30/04/2018	€361,039.04	-€2,681.23	-€483,155.20

Table 21 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Market Operator Monthly Report

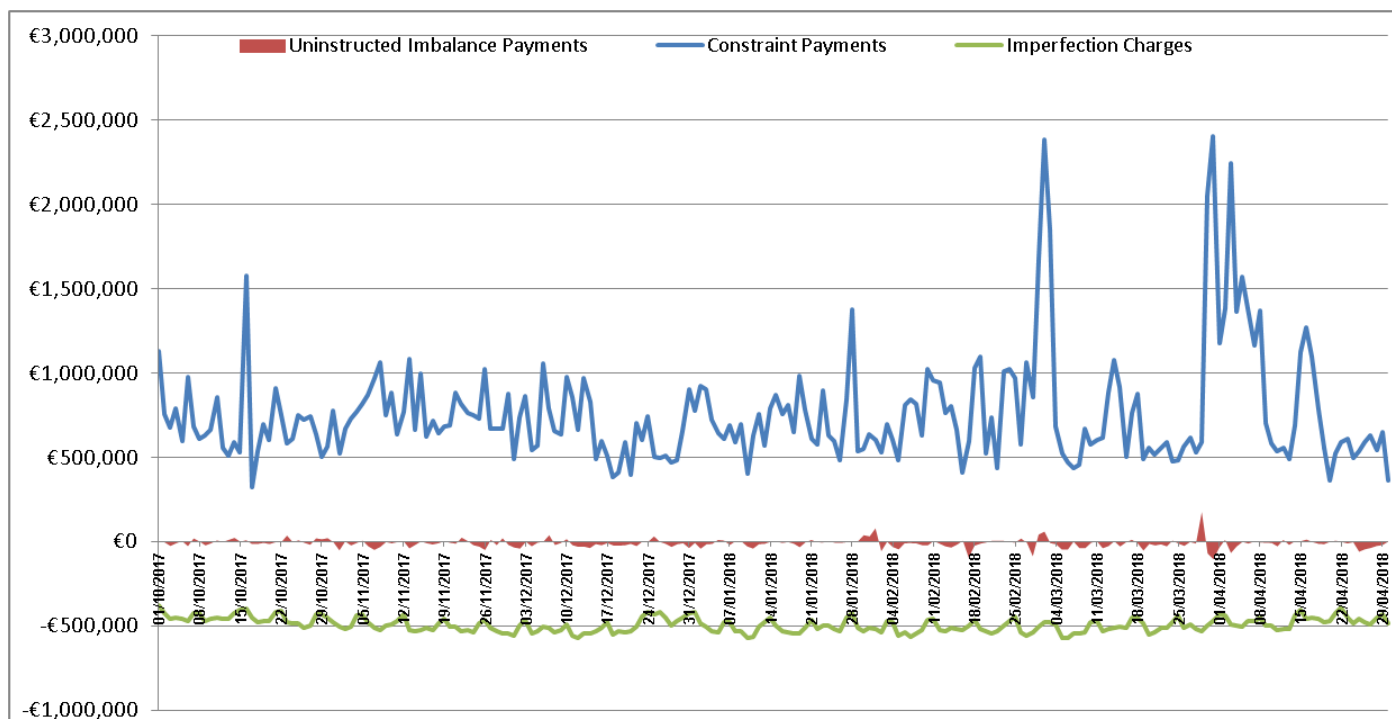


Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Week No	Make Whole Payments
40	€250,374.71
41	€83,919.38
42	€25,546.52
43	€167,868.48
44	€30,640.51
45	€178,465.56
46	€145,307.99
47	€77,955.85
48	€115,343.57
49	€128,242.43
50	€41,192.83
51	€94,676.92
52	€172,216.83
53	€1,173.60
1	€107,082.71
2	€30,512.12
3	€224,880.02
4	€106,178.86
5	€123,059.19
6	€167,143.45
7	€401,463.16

8	€150,530.08
9	€277,810.65
10	€148,161.81
11	€268,147.87
12	€132,721.64
13	€203,473.93
14	€136,206.95
15	€176,440.28
16	€218,283.31

Table 22 - Make Whole Payments

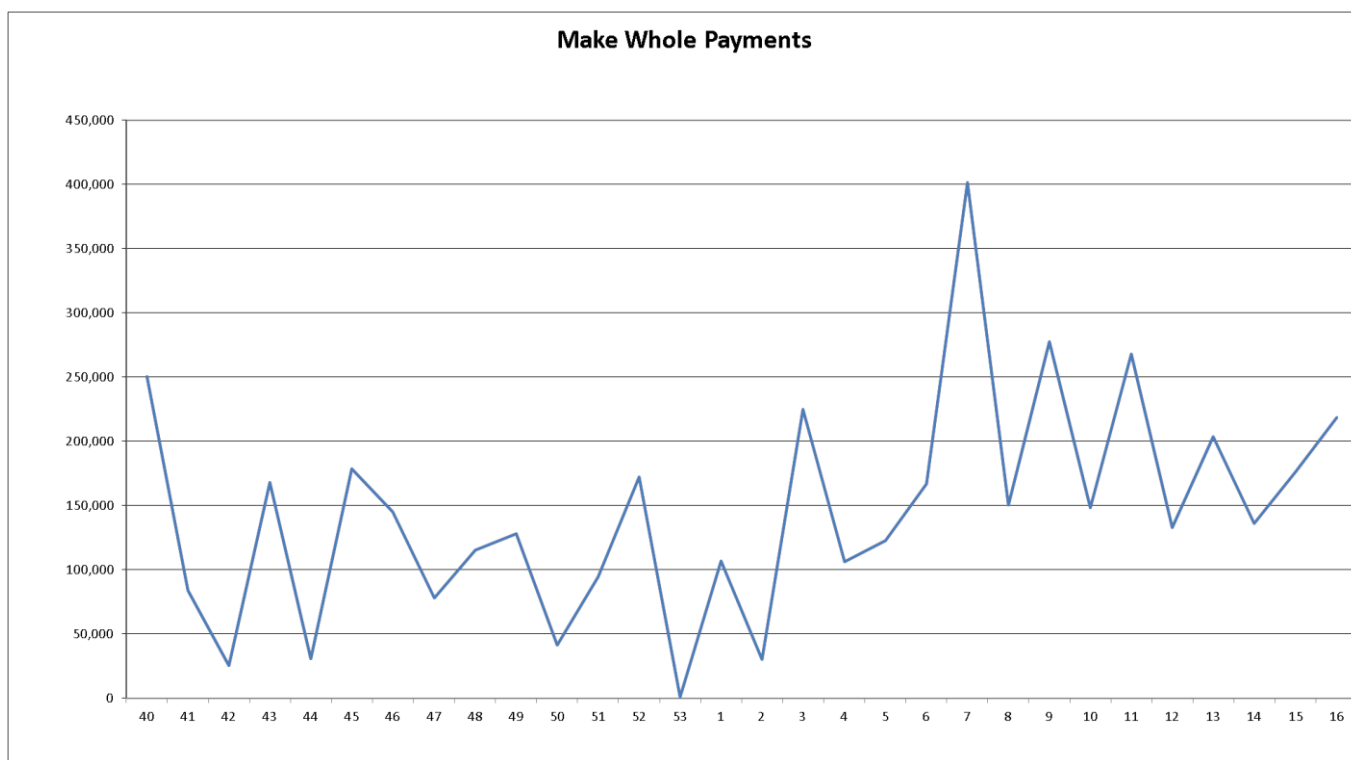


Figure 25 - Make Whole Payments

Week No	Testing Charges
40	-€47,420.09
41	-€31,943.73
42	-€37,408.75
43	-€44,370.66
44	-€31,520.74
45	-€1,129.07
46	€0.00

47	-€31,615.34
48	-€37,036.09
49	-€22,408.67
50	€0.00
51	€0.00
52	€0.00
53	-€14,644.78
1	€0.00
2	€0.00
3	€0.00
4	-€13,810.58
5	€0.00
6	€0.00
7	€0.00
8	€0.00
9	-€13,485.14
10	-€25,018.88
11	-€80,441.96
12	€0.00
13	€0.00
14	€0.00
15	€0.00
16	€0.00

Table 23 - Testing Charges

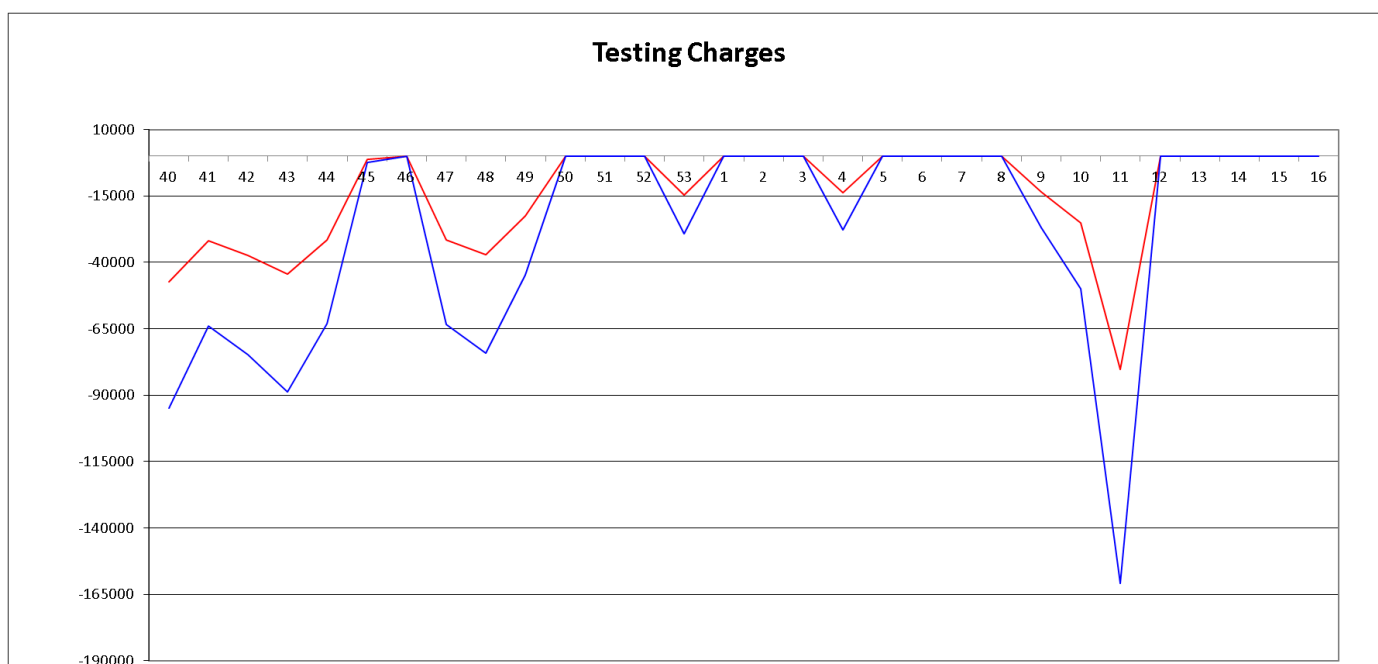


Figure 26 - Testing Charges

Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during April 2018 where the Commercial Offer Data was based on a Participant submission within the Market window, or based on Standing Data or Default Data submitted.

PNAME	RNAME	Manual	Adjusted	Standing	COUNT
PT_400090	DSU_401610	8			8
PT_400124	DSU_401880	20			20
PT_400138	DSU_401590	30			30
PT_400133	DSU_401910	4			4
PT_400138	DSU_402040	30			30
PT_400106	DSU_401330	30			30
PT_500105	DSU_501510	1			1
PT_400133	DSU_401530	12			12
PT_400024	GU_400120	30			30
PT_400024	GU_400121	30			30
PT_400030	GU_400180	31			31
PT_400030	GU_400181	31			31
PT_400030	GU_400182	31			31
PT_400030	GU_400183	31			31
PT_400030	GU_400200	34			34
PT_400030	GU_400201	34			34
PT_400030	GU_400202	34			34
PT_400030	GU_400203	34			34
PT_400030	GU_400210	30			30
PT_400030	GU_400211	30			30
PT_400030	GU_400220	30			30
PT_400030	GU_400221	30			30
PT_400030	GU_400240	30			30
PT_400030	GU_400250	30			30
PT_400030	GU_400251	30			30
PT_400030	GU_400252	30			30
PT_400030	GU_400260	30			30
PT_400030	GU_400270	32			32
PT_400030	GU_400271	33			33
PT_400030	GU_400272	33			33
PT_400030	GU_400280	31			31
PT_400030	GU_400281	31			31
PT_400030	GU_400290	31			31
PT_400030	GU_400300	31			31
PT_400030	GU_400311	31			31
PT_400030	GU_400324	31			31
PT_400030	GU_400325	32			32
PT_400030	GU_400360	30			30
PT_400030	GU_400361	30			30
PT_400030	GU_400362	30			30
PT_400030	GU_400363	30			30
PT_400030	GU_400370	30			30

Market Operator Monthly Report

PT_400030	GU_400850	31		31
PT_400030	GU_402080	27		27
PT_400032	GU_400430	27		27
PT_400034	GU_400940	27		27
PT_400034	GU_401090	27		27
PT_400034	GU_401440	27		27
PT_400034	GU_401680	27		27
PT_400035	GU_400480	50		50
PT_400037	GU_400500	30		30
PT_400041	GU_400530	57		57
PT_400044	GU_400540	50		50
PT_400054	GU_400620	27		27
PT_400055	GU_400630	27		27
PT_400064	GU_400750	30		30
PT_400064	GU_400751	30		30
PT_400064	GU_400752	30		30
PT_400064	GU_400753	30		30
PT_400064	GU_400762	30		30
PT_400064	GU_400770	30		30
PT_400064	GU_400771	30		30
PT_400064	GU_400780	30		30
PT_400064	GU_400781	30		30
PT_400077	GU_400950	27		27
PT_400078	GU_401010	30		30
PT_400078	GU_401011	30		30
PT_400087	GU_401230	11		11
PT_400165	GU_401840	30		30
PT_400172	GU_401860	31		31
PT_400198	GU_402030	7		7
PT_500021	GU_501710	22		22
PT_500024	GU_500040	32		32
PT_500024	GU_500041	30		30
PT_500027	GU_500130	84		84
PT_500027	GU_500131	84		84
PT_500027	GU_500140	84		84
PT_500034	GU_501350	30		30
PT_500034	GU_501680	22		22
PT_500040	GU_500281	36		36
PT_500040	GU_500282	36		36
PT_500040	GU_500283	30		30
PT_500040	GU_500284	30		30
PT_500045	GU_500820	30		30
PT_500045	GU_500821	30		30
PT_500045	GU_500822	30		30
PT_500045	GU_500823	33		33
PT_500045	GU_500824	30		30
PT_500045	GU_500825	30		30
PT_500048	GU_500904	46		46
PT_500050	GU_501040	27		27
PT_500050	GU_501050	27		27
PT_500050	GU_501150	27		27
PT_500050	GU_501190	27		27
PT_500050	GU_501430	27		27

Market Operator Monthly Report

PT_500050	GU_501440	27		27
PT_500053	GU_501130	30		30
PT_500066	GU_501210	27		27
PT_500073	GU_501230	1		1
PT_400201	I_ROIEWIC	48		48
PT_500083	I_NIMOYLE	90		90
PT_500075	I_NIMOYLE	87		87
PT_500024	I_NIMOYLE	30		30
PT_400163	I_ROIEWIC	89		89
PT_400157	I_ROIEWIC	50		50
PT_500069	I_NIMOYLE	90		90
PT_500031	I_NIMOYLE	30		30
PT_400096	I_ROIEWIC	89		89
PT_500112	I_NIMOYLE	10		10
PT_500037	I_NIMOYLE	30		30
PT_500081	I_NIMOYLE	57		57
PT_400136	I_ROIEWIC	87		87
PT_400168	I_ROIEWIC	33		33
PT_400115	I_ROIEWIC	30		30
PT_400188	I_ROIEWIC	1		1
PT_500107	I_NIMOYLE	2		2
PT_400108	I_ROIEWIC	54		54
PT_400171	I_ROIEWIC	38		38
PT_500070	I_NIMOYLE	57		57
PT_500120	I_NIMOYLE	45		45
PT_400164	I_ROIEWIC	18		18
PT_400030	I_ROIEWIC	30		30
PT_500092	I_NIMOYLE	48		48
PT_500085	I_NIMOYLE	30		30
PT_400099	I_ROIEWIC	30		30
PT_400090	DSU_401620		30	30
PT_400116	DSU_401400		30	30
PT_400144	DSU_401660		30	30
PT_400124	DSU_401490		30	30
PT_400116	DSU_402120		30	30
PT_400090	DSU_401800		30	30
PT_400090	DSU_401850		30	30
PT_500064	DSU_501200		30	30
PT_500078	DSU_501330		30	30
PT_400090	DSU_401270		30	30
PT_400090	DSU_401610		23	23
PT_500099	DSU_501460		30	30
PT_500105	DSU_501510		29	29
PT_500067	DSU_501380		30	30
PT_400111	DSU_401390		30	30
PT_400133	DSU_402180		30	30
PT_400116	DSU_402100		30	30
PT_400133	DSU_401910		27	27
PT_400116	DSU_401870		30	30
PT_400133	DSU_401530		18	18
PT_500098	DSU_501450		30	30
PT_500108	DSU_501560		30	30
PT_400124	DSU_401880		10	10

Market Operator Monthly Report

PT_400116	DSU_402090			30	30
PT_400021	GU_400021			30	30
PT_400021	GU_400050			30	30
PT_400021	GU_400060			30	30
PT_400021	GU_400070			30	30
PT_400021	GU_400080			30	30
PT_400021	GU_400591			30	30
PT_400021	GU_400600			30	30
PT_400021	GU_400910			30	30
PT_400021	GU_400920			30	30
PT_400021	GU_401080			30	30
PT_400021	GU_401380			30	30
PT_400021	GU_401640			30	30
PT_400021	GU_401960			30	30
PT_400021	GU_401990			30	30
PT_400025	GU_400130			30	30
PT_400030	GU_402080			4	4
PT_400032	GU_400430			4	4
PT_400034	GU_400940			4	4
PT_400034	GU_401090			4	4
PT_400034	GU_401440			4	4
PT_400034	GU_401680			4	4
PT_400038	GU_400550			30	30
PT_400050	GU_400650			30	30
PT_400050	GU_400660			30	30
PT_400050	GU_401000			30	30
PT_400050	GU_401060			30	30
PT_400050	GU_401150			30	30
PT_400050	GU_401240			30	30
PT_400050	GU_401250			30	30
PT_400050	GU_401280			30	30
PT_400050	GU_401290			30	30
PT_400050	GU_401360			30	30
PT_400050	GU_401790			30	30
PT_400050	GU_401920			30	30
PT_400050	GU_401930			30	30
PT_400050	GU_402010			30	30
PT_400054	GU_400620			4	4
PT_400055	GU_400630			4	4
PT_400062	GU_400730			30	30
PT_400062	GU_400731			30	30
PT_400062	GU_400840			30	30
PT_400066	GU_401540			30	30
PT_400066	GU_401820			30	30
PT_400075	GU_400930			30	30
PT_400077	GU_400950			4	4
PT_400082	GU_401100			30	30
PT_400087	GU_401230			19	19
PT_400148	GU_401690			30	30
PT_400150	GU_401700			30	30
PT_400151	GU_401770			30	30
PT_400151	GU_401780			30	30
PT_400152	GU_401710			30	30

Market Operator Monthly Report

PT_400152	GU_401720			30	30
PT_400152	GU_401730			30	30
PT_400152	GU_401740			30	30
PT_400152	GU_401750			30	30
PT_400152	GU_401760			30	30
PT_400162	GU_401830			30	30
PT_400178	GU_401900			30	30
PT_400197	GU_402020			30	30
PT_400198	GU_402030			25	25
PT_500021	GU_500010			30	30
PT_500021	GU_500740			30	30
PT_500021	GU_501160			30	30
PT_500021	GU_501500			30	30
PT_500021	GU_501520			30	30
PT_500021	GU_501620			30	30
PT_500021	GU_501630			30	30
PT_500021	GU_501710			9	9
PT_500032	GU_500211			30	30
PT_500032	GU_501120			30	30
PT_500032	GU_501280			30	30
PT_500032	GU_501290			30	30
PT_500032	GU_501300			30	30
PT_500032	GU_501400			30	30
PT_500032	GU_501530			30	30
PT_500032	GU_501540			30	30
PT_500032	GU_501570			30	30
PT_500034	GU_501680			9	9
PT_500039	GU_500270			30	30
PT_500044	GU_500720			30	30
PT_500047	GU_500790			30	30
PT_500050	GU_501040			4	4
PT_500050	GU_501050			4	4
PT_500050	GU_501150			4	4
PT_500050	GU_501190			4	4
PT_500050	GU_501430			4	4
PT_500050	GU_501440			4	4
PT_500061	GU_501170			30	30
PT_500062	GU_501180			30	30
PT_500066	GU_501210			4	4
PT_500073	GU_501230			29	29
PT_500074	GU_501250			30	30
PT_500089	GU_501360			30	30
PT_500103	GU_501480			30	30
PT_500110	GU_501580			20	20
	Total	4233	0	3072	7305
	Percentage	57.95%	0.00%	42.05%	100.00%

Table 24 – Commercial Offer Data Used

Appendix G: Total Charges and Payments Data

The tables below list historical values for Total Charges and Total Payments in the SEM by month and currency since start of the SEM.

- Month of inclusion based on invoice date.
- Amounts are after application of Settlement Reallocation.

Market		Energy	Capacity	Market Operator	M+4 Energy	M+4 Capacity	M+4 Market Operator	M+13 Energy	M+13 Capacity	M+13 Market Operator	Ad-hoc Energy	Ad-hoc Capacity	Ad-hoc Market Operator	Total
Aug-16	ROI	£53,930,805.17	£17,305,631.08	£1,082,673.75	£206,642.80	£45,575.08	£1,900.74	£45,391.41	£12,311.23	£322.83	£0.00	£0.00	£0.00	72,691,320.15
	NI	£13,463,141.18	£3,676,029.87	£272,060.88	£22,683.34	£6,312.45	£234.54	£2,906.60	£2,273.87	£18.25	£0.00	£0.00	£0.00	17,446,321.58
Sep-16	ROI	£60,365,808.65	£17,305,631.08	£1,381,850.46	£313,754.10	£83,238.29	£3,816.76	£47,911.41	£8,968.97	£354.53	£0.00	£2,861.23	£0.00	79,514,255.48
	NI	£17,633,943.87	£3,676,029.87	£343,566.95	£32,666.66	£7,720.07	£412.32	£4,847.16	£1,188.42	£33.50	£0.00	£532.20	£0.00	21,766,941.62
Oct-16	ROI	£64,937,764.02	£20,215,673.73	£813,429.31	£334,853.66	£96,213.40	£3,776.71	£47,334.32	£14,216.75	£359.61	£0.00	£0.00	£0.00	86,463,621.57
	NI	£25,730,620.36	£4,335,559.58	£220,252.61	£81,663.62	£17,690.00	£978.05	£11,878.35	£2,104.44	£85.45	£0.00	£0.00	£0.00	31,000,832.46
Nov-16	ROI	£79,083,041.86	£26,426,844.27	£746,353.33	£256,783.77	£97,150.33	£3,451.80	£77,643.02	£35,163.15	£618.36	£325,364.05	£0.00	£0.00	107,053,620.66
	NI	£30,128,634.33	£6,448,578.43	£206,307.51	£173,676.38	£60,271.90	£2,148.44	£42,708.63	£23,836.40	£422.17	£834.57	£0.00	£0.00	37,088,078.88
Dec-16	ROI	£91,892,862.67	£27,754,182.60	£986,254.46	£431,619.50	£110,272.33	£6,055.55	£98,070.16	£32,223.23	£1,076.34	£505,293.63	£0.00	£0.00	121,817,916.53
	NI	£33,787,633.11	£6,363,652.60	£260,893.62	£238,761.61	£53,464.74	£2,658.52	£27,575.46	£12,836.78	£304.21	£775.23	£0.00	£0.00	41,348,615.88
Jan-17	ROI	£71,678,885.81	£27,768,345.87	£756,389.76	£157,498.32	£96,027.36	£2,212.62	£63,104.42	£38,920.56	£719.17	£0.00	£0.00	£0.00	100,562,104.43
	NI	£24,623,245.15	£6,418,062.31	£203,136.05	£105,611.21	£32,330.86	£1,272.30	£50,004.40	£12,723.31	£166.24	£0.00	£0.00	£0.00	31,446,551.83
Feb-17	ROI	£68,417,743.71	£27,553,403.45	£786,234.64	£143,736.91	£161,777.77	£822.63	£56,371.33	£22,936.28	£671.74	£0.00	£0.00	£0.00	97,143,704.52
	NI	£26,623,153.66	£8,331,870.29	£208,457.12	£84,873.05	£12,863.18	£479.73	£65,781.22	£10,545.70	£290.27	£0.00	£0.00	£0.00	35,338,320.22
Mar-17	ROI	£66,590,304.20	£25,393,733.73	£896,638.56	£530,304.65	£113,305.35	£3,188.17	£40,673.23	£13,853.63	£638.11	£0.00	£0.00	£0.00	94,190,452.29
	NI	£27,088,752.15	£8,001,218.02	£232,052.21	£72,287.75	£14,630.37	£409.33	£46,677.74	£14,276.96	£577.22	£0.00	£0.00	£0.00	35,470,881.81
Apr-17	ROI	£56,165,195.56	£24,426,665.10	£727,000.54	£536,638.08	£142,324.28	£3,531.15	£45,125.24	£18,620.07	£596.12	£0.00	£0.00	£0.00	82,065,756.14
	NI	£17,358,282.80	£7,584,088.13	£179,414.33	£127,102.23	£27,651.73	£859.38	£60,044.36	£25,589.38	£801.30	£0.00	£0.00	£0.00	25,363,834.96
May-17	ROI	£44,648,195.71	£19,781,317.86	£700,841.87	£483,950.65	£142,425.65	£2,374.84	£51,455.64	£17,883.26	£699.50	£0.00	£0.00	£0.00	65,835,744.98
	NI	£16,364,613.24	£5,548,133.24	£169,862.58	£108,402.43	£29,733.84	£622.87	£88,001.70	£33,781.45	£1,179.59	£0.00	£0.00	£0.00	22,944,330.34
Jun-17	ROI	£50,996,714.24	£18,508,982.13	£841,895.70	£869,713.30	£198,750.84	£4,334.88	£65,063.85	£16,276.93	£866.44	£0.00	£0.00	£0.00	71,503,198.91
	NI	£18,134,740.54	£5,385,407.33	£213,872.53	£138,837.43	£30,982.10	£823.10	£148,093.71	£42,384.03	£1,836.46	£0.00	£0.00	£0.00	24,096,977.29
Jul-17	ROI	£53,839,556.76	£18,469,543.17	£689,850.17	£859,675.25	£105,231.46	£1,843.13	£47,200.17	£31,615.25	£600.31	£0.00	£0.00	£0.00	74,045,115.67
	NI	£16,871,524.38	£4,370,215.26	£169,319.17	£206,639.63	£26,416.39	£609.40	£122,939.50	£47,342.00	£1,369.62	£0.00	£0.00	£0.00	22,416,435.95
Aug-17	ROI	£43,715,868.33	£16,597,661.81	£670,887.89	£189,567.77	£49,405.34	£1,189.91	£131,434.13	£36,135.62	£1,706.37	£1.41	£0.00	£0.00	67,393,859.84
	NI	£15,604,253.43	£4,539,253.85	£174,636.65	£71,879.64	£24,102.39	£515.19	£11,674.35	£2,799.04	£123.34	£52.50	£0.00	£0.00	20,429,296.98
Sep-17	ROI	£74,262,007.43	£18,246,287.18	£871,978.12	£297,529.91	£58,164.04	£2,322.12	£47,978.01	£13,495.87	£504.35	£163,227.43	£0.00	£0.00	93,963,494.46
	NI	£26,213,019.19	£5,128,326.58	£230,350.58	£81,360.23	£23,139.40	£499.97	£13,331.20	£6,511.87	£297.83	£140,679.45	£0.00	£0.00	31,837,516.30
Oct-17	ROI	£64,383,218.39	£18,184,430.56	£721,054.00	£289,078.01	£109,973.68	£2,586.30	£32,785.64	£11,166.82	£447.56	£0.00	£0.00	£0.00	83,734,801.56
	NI	£18,177,387.18	£5,365,068.45	£188,849.52	£78,539.81	£23,503.63	£650.39	£10,931.60	£2,877.72	£134.29	£0.00	£0.00	£0.00	23,847,943.19
Nov-17	ROI	£69,317,323.47	£23,231,814.13	£783,294.30	£970,455.78	£256,503.23	£5,626.58	£71,337.36	£267,757.66	£515.98	£0.00	£0.00	£0.00	94,904,628.49
	NI	£23,659,853.33	£7,429,639.95	£190,873.33	£151,575.25	£33,802.36	£816.21	£72,821.57	£115,445.55	£533.11	£0.00	£0.00	£0.00	31,655,427.32
Dec-17	ROI	£108,724,536.96	£30,213,314.37	£1,032,089.87	£386,043.39	£61,761.35	£2,747.14	£91,579.26	£20,859.90	£558.92	£354,184.96	£196,828.93	£196,828.93	141,281,393.91
	NI	£35,009,530.01	£7,435,318.60	£270,080.16	£180,156.15	£72,189.79	£1,323.33	£45,368.58	£11,660.54	£288.42	£58,353.41	£11,091.72	£11,091.72	43,106,453.03
Jan-18	ROI	£66,824,387.64	£31,236,649.01	£796,356.35	£272,646.34	£136,640.30	£1,965.48	£56,253.29	£18,996.49	£347.05	£320.44	£2,955.28	£2,955.28	99,350,473.55
	NI	£21,801,403.00	£8,153,351.60	£211,139.18	£105,764.72	£76,139.37	£734.71	£22,938.26	£7,983.39	£150.76	£275,137.08	£85,908.52	£85,908.52	30,826,559.11
Feb-18	ROI	£73,894,145.46	£29,049,213.63	£821,611.24	£239,608.70	£442,118.67	£1,727.82	£34,763.85	£73,083.63	£225.56	£0.00	£0.00	£0.00	104,556,498.56
	NI	£23,559,299.88	£8,534,268.31	£214,366.57	£214,152.33	£80,930.26	£1,369.32	£27,935.49	£69,821.89	£160.29	£0.00	£0.00	£0.00	32,702,304.34
Mar-18	ROI	169,317,323	123,231,814	1783,294	1970,456	1256,503	15,627	171,337	1267,758	1516	10	10	10	194,904,628
	NI	£23,659,859	£7,429,700	£190,874	£151,575	£33,802	£816	£72,822	£115,446	£533	£0	£0	£0	£31,655,427
Apr-18	ROI	£69,317,323	£23,231,814	£783,294	£970,456	£256,503	£5,627	£71,337	£267,758	£516	£0	£0	£0	£94,904,628
	NI	£23,659,859	£7,429,700	£190,874	£151,575	£33,802	£816	£72,822	£115,446	£533	£0	£0	£0	£31,655,427

Table 25 – Total Charges by Month

Market Operator Monthly Report

Market		Energy	Capacity	M+4 Energy	M+4 Capacity	M+4 Market Operator	M+13 Energy	M+13 Capacity	M+13 Market Operator	Ad-hoc Energy	Ad-hoc Capacity	Ad-hoc Market Operator	Total
Aug-16	ROI	147,925,137.80	117,191,335.52	1205,102.11	145,376.26	11,900.83	146,132.09	112,064.34	1323.00	10.00	10.00	10.00	165,427,371.95
	NI	113,904,887.07	13,784,287.20	126,983.41	16,959.89	1294.55	12,874.89	12,261.38	118.45	10.00	10.00	10.00	117,728,566.84
Sep-16	ROI	157,725,046.88	117,191,335.52	1316,785.33	182,962.53	14,207.29	147,913.59	18,957.12	1354.44	10.00	1295.52	10.00	175,377,858.28
	NI	115,918,157.70	13,784,287.20	132,790.23	17,927.66	1416.78	14,847.59	11,185.01	133.38	10.00	12,875.40	10.00	119,752,520.95
Oct-16	ROI	169,972,953.07	120,863,182.68	1338,586.57	195,502.31	14,333.45	187,892.25	114,736.13	1359.59	10.00	10.00	10.00	191,377,546.05
	NI	125,586,214.40	14,376,394.83	177,787.35	118,365.43	1977.30	111,874.98	11,647.25	185.65	10.00	10.00	10.00	130,073,347.19
Nov-16	ROI	183,487,123.38	126,395,539.72	1257,668.44	180,165.18	13,418.32	194,355.82	139,305.46	1618.26	1301,690.28	10.00	172.04	1110,659,956.90
	NI	131,306,401.54	16,468,679.78	1173,737.66	174,786.08	12,148.38	143,017.39	120,271.13	1422.26	1832.79	10.00	10.00	136,090,297.01
Dec-16	ROI	195,266,581.65	127,572,460.28	1447,482.30	114,736.82	16,025.28	197,017.33	132,733.66	11,076.70	1496,715.14	10.00	11,512.38	1124,036,341.54
	NI	135,841,749.90	16,989,191.13	1197,537.73	149,301.94	12,219.49	125,889.47	112,309.63	1304.11	187.68	10.00	10.00	143,118,591.08
Jan-17	ROI	175,626,838.95	126,766,502.24	1158,454.05	190,014.92	12,220.87	157,510.67	143,928.85	1718.84	10.00	10.00	10.00	1102,746,189.39
	NI	125,518,177.37	17,218,837.74	1105,159.01	137,420.47	11,201.46	113,624.71	18,406.28	1166.14	10.00	10.00	10.00	132,902,993.18
Feb-17	ROI	172,035,479.90	127,979,553.27	1155,130.29	1146,308.11	1822.54	152,898.05	123,287.43	1672.03	10.00	10.00	10.00	1100,394,151.62
	NI	127,677,936.42	18,012,556.21	184,963.22	126,404.97	1479.76	126,710.73	104,305.95	1304.45	10.00	10.00	10.00	135,839,789.71
Mar-17	ROI	174,265,958.01	125,788,084.66	1532,016.14	1116,104.70	13,141.82	139,271.10	113,708.08	1638.20	10.00	10.00	10.00	1100,758,922.71
	NI	127,816,469.38	18,149,368.84	176,024.05	112,908.20	1406.88	132,923.50	114,410.91	1582.61	10.00	10.00	10.00	136,103,094.37
Apr-17	ROI	156,718,380.85	124,463,279.10	1537,285.75	1147,053.40	13,530.38	145,104.86	118,331.73	1596.32	10.00	10.00	10.00	181,933,562.39
	NI	118,526,297.40	17,555,445.88	1125,968.13	123,710.00	1645.79	153,866.13	125,832.73	1810.81	10.00	10.00	10.00	126,318,576.87
May-17	ROI	145,161,376.39	118,086,733.29	1488,856.77	1139,195.42	12,589.27	162,916.83	117,794.83	1699.70	10.00	10.00	10.00	163,960,162.50
	NI	119,510,303.26	16,964,363.87	1107,751.82	132,525.65	1619.02	168,078.61	133,838.58	1182.28	10.00	10.00	10.00	126,738,663.09
Jun-17	ROI	€52,758,436.23	€17,355,294.13	€882,852.53	€191,441.91	€3,661.42	€65,347.10	€16,420.10	€869.48	€0.00	€0.00	€0.00	€171,274,382.90
	NI	€20,252,622.96	€6,380,475.07	€138,076.17	€37,695.41	€816.77	€148,166.13	€42,425.33	€1,836.50	€0.00	€0.00	€0.00	€27,002,114.34
Jul-17	ROI	€54,277,936.32	€17,477,373.72	€846,835.48	€102,146.67	€1,651.30	€47,723.87	€34,509.09	€601.00	€0.00	€0.00	€0.00	€172,788,839.45
	NI	€18,773,354.99	€5,850,870.07	€230,926.67	€29,088.46	€609.37	€122,267.41	€44,738.41	€1,404.46	€0.00	€0.00	€0.00	€25,053,259.84
Aug-17	ROI	€50,562,528.38	€15,345,661.50	€190,289.53	€50,188.86	€1,330.67	€130,457.46	€35,704.06	€1,694.02	€2.00	€0.00	€0.00	€66,317,856.48
	NI	€18,103,577.29	€5,650,171.54	€71,815.23	€23,380.11	€512.28	€11,510.00	€3,159.55	€146.77	€45.51	€0.00	€0.00	€23,864,318.28
Sep-17	ROI	€77,198,039.75	€16,935,824.39	€297,316.08	€58,064.10	€2,315.75	€36,227.08	€14,579.25	€480.13	€329,748.86	€0.00	€736.80	€94,873,332.19
	NI	€29,090,989.44	€6,342,522.98	€81,307.50	€23,116.39	€615.25	€24,625.76	€5,539.12	€177.97	€254,051.02	€0.00	€4.28	€35,822,949.71
Oct-17	ROI	€66,627,076.69	€17,573,435.30	€379,168.29	€109,325.13	€2,586.81	€31,769.76	€11,103.25	€435.24	€0.00	€0.00	€0.00	€84,734,900.47
	NI	€22,549,009.87	€5,897,549.80	€79,103.03	€24,197.26	€648.45	€10,935.82	€2,957.83	€134.12	€0.00	€0.00	€0.00	€28,564,536.18
Nov-17	ROI	€69,267,924.43	€20,860,691.93	€945,469.01	€237,062.94	€3,887.05	€193,101.16	€310,896.85	€515.98	€0.00	€0.00	€0.00	€91,819,549.41
	NI	€32,845,009.97	€9,450,018.71	€150,560.33	€50,634.81	€818.33	€72,832.15	€77,369.59	€532.79	€0.00	€0.00	€0.00	€42,647,776.68
Dec-17	ROI	€106,835,064.33	€27,957,453.42	€397,100.73	€98,040.58	€2,984.78	€91,151.49	€20,818.71	€556.31	€336,745.88	€173,793.95	€644.35	€135,914,354.53
	NI	€37,790,994.99	€9,466,911.04	€181,354.27	€40,293.46	€1,305.84	€45,734.51	€11,769.44	€290.16	€57,624.89	€31,404.66	€288.16	€47,627,971.42
Jan-18	ROI	€66,556,846.79	€30,184,516.90	€264,692.47	€140,421.82	€600.74	€56,245.08	€18,749.58	€946.74	€37.23	€16,333.45	€0.00	€197,238,790.80
	NI	€24,598,645.75	€9,075,819.96	€105,487.86	€72,782.55	€685.44	€22,940.69	€8,209.56	€150.74	€270,100.11	€74,414.80	€1,311.93	€34,230,549.39
Feb-18	ROI	€73,649,373.32	€28,234,770.33	€241,672.56	€232,622.38	€1,496.49	€33,903.63	€90,769.95	€220.04	€0.00	€0.00	€0.00	€102,484,828.70
	NI	€26,522,258.99	€9,276,145.07	€211,340.35	€267,052.17	€1,368.55	€28,772.37	€54,122.68	€164.70	€0.00	€0.00	€0.00	€36,361,224.88
Mar-18	ROI	€69,267,924.43	€20,860,692.92	€945,469.01	€237,062.94	€3,887.05	€193,101.16	€310,896.85	€515.98	€0.00	€0.00	€0.00	€91,819,549.41
	NI	€32,845,009.97	€9,450,018.71	€150,560.33	€50,634.81	€818.33	€72,832.15	€77,369.59	€532.79	€0.00	€0.00	€0.00	€42,647,776.68
Apr-18	ROI	€69,267,924.43	€20,860,692.92	€945,469.01	€237,062.94	€3,887.05	€193,101.16	€310,896.85	€515.98	€0.00	€0.00	€0.00	€91,819,549.41
	NI	€32,845,009.97	€9,450,018.71	€150,560.33	€50,634.81	€818.33	€72,832.15	€77,369.59	€532.79	€0.00	€0.00	€0.00	€42,647,776.68

Table 26 - Total Payments by Month

Appendix H: Full Balancing Costs

Historical figures for full Balancing Costs of both the Trading and Capacity Markets, for the current financial year (October to September), are provided below. Information related to periods before this is available in previous Monthly Market Operator Reports.

- Positive values indicate Payments were greater than Charges.
- Negative values indicate Charges were greater than Payments.

Trading Market

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
06/10/2017	39	€4,277,088.98	€0
13/10/2017	40	€2,482,838.95	€0
20/10/2017	41	€1,242,741.61	€0
27/10/2017	42	€2,017,373.96	€0
03/11/2017	43	€1,496,601.70	€0
10/11/2017	44	€1,138,507.50	€0
17/11/2017	45	€2,429,067.77	€0
24/11/2017	46	€1,847,665.06	€0
01/12/2017	48	€1,330,336.80	€0
08/12/2017	49	€1,452,421.60	€0
15/12/2017	50	€1,454,433.85	€0
22/12/2017	51	-€120,183.03	€0
05/01/2018	52	€668,708.17	€0
12/01/2018	53	€1,983,172.46	€0
19/01/2018	1	€534,352.28	€0
26/01/2018	2	€1,946,527.32	€0
02/02/2018	3	€1,107,021.02	€0
09/02/2018	4	€1,493,834.12	€0
16/02/2018	5	€1,362,758.37	€0
23/02/2018	6	€1,362,251.43	€0
02/03/2018	7	€2,236,125.89	€0
09/03/2018	8	€5,824,119.00	€0
16/03/2018	9	-€148,322.47	€0
23/03/2018	10	€1,754,733.96	€0
30/03/2018	11	€374,990.87	€0
07/04/2018	12	€3,709,200.97	€0
14/04/2018	13	€6,818,333.49	€0

Market Operator Monthly Report

21/04/2018	14	€1,405,312.25	€0
28/04/2018	15	€2,534,835.45	€0

Table 27 – Full Balancing Costs for Trading Charges and Payments

Note: SEM Balancing Costs are provided based on daily exchange rates; VAT Balancing Costs are based on the Invoicing Date Trading Day exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

Capacity Market

Invoice Month	SEM Balancing Costs	VAT Balancing Costs
Mar 2018	€ -345.23	€0

Table 28 - Balancing Costs for Capacity Settlement

Note: SEM Capacity Balancing Costs and VAT Balancing Costs are provided based on Annual Capacity exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

Appendix I: MSP Algorithms

The Market Operator has two different certified solvers used to determine Unit Commitment. These solvers use the Lagrangian Relaxation (LR) and Mixed Integer Programming (MIP) methodologies.

The primary algorithm used in the SEM is Lagrangian Relaxation (LR). Under certain schedule outcomes this solution is compared to results achieved using MIP. The SEMO policy on the use of MIP has been updated and is available from the SEMO website [here](#).

Historical information on runs and dates where the MIP algorithm has been used for published results is provided below.

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>Jan 2017</u>	<u>29/01/2017</u> <u>31/01/2017</u>	<u>03/01/2017</u> <u>26/01/2017</u> <u>29/01/2017</u> <u>31/01/2017</u>	-	<u>01/01/2017</u> <u>23/01/2017</u> <u>28/01/2017</u> <u>30/01/2017</u>	<u>12/01/2017</u> <u>31/01/2017</u>
<u>Feb 2017</u>	-	<u>06/02/2017</u> <u>13/02/2017</u> <u>19/02/2017</u>	<u>04/02/2017</u> <u>08/02/2017</u> <u>17/02/2017</u> <u>28/02/2017</u>	<u>01/02/2017</u> <u>05/02/2017</u> <u>08/02/2017</u> <u>11/02/2017</u>	<u>04/02/2017</u> <u>07/02/2017</u> <u>20/02/2017</u> <u>25/02/2017</u>
<u>Mar 2017</u>	-	<u>09/03/2017</u>	<u>19/03/2017</u> <u>24/03/2017</u>	<u>08/03/2017</u> <u>18/03/2017</u> <u>24/03/2017</u>	<u>20/03/2017</u> <u>21/03/2017</u>
<u>Apr 2017</u>	-	-	<u>17/04/2017</u> <u>28/04/2017</u>	<u>03/04/2017</u> <u>06/04/2017</u> <u>26/04/2017</u>	<u>04/04/2017</u>

Market Operator Monthly Report

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>May 2017</u>	<u>15/05/2017</u>	-	-	-	<u>05/05/2017</u> <u>14/05/2017</u>
<u>Jun 2017</u>	-	<u>02/06/2017</u> <u>29/06/2017</u>	-	-	<u>11/06/2017</u>
<u>July 2017</u>	<u>19/07/2017</u>	<u>01/08/2017</u>	-	-	-
<u>August 2017</u>	-	<u>17/08/2017</u>	<u>30/08/2017</u>	<u>18/08/2017</u>	<u>01/08/2017</u>
<u>September 2017</u>	<u>26/09/2017</u>	-	<u>04/09/2017</u> <u>18/09/2017</u> <u>20/09/2017</u>	<u>18/09/2017</u>	-
<u>October 2017</u>	<u>15/10/2017</u>	<u>03/10/2017</u> <u>24/10/2017</u> <u>26/10/2017</u>	<u>04/10/2017</u> <u>06/10/2017</u> <u>26/10/2017</u>	<u>20/10/2017</u> <u>24/10/2017</u> <u>26/10/2017</u>	<u>10/10/2017</u> <u>16/10/2017</u>
<u>November 2017</u>	-	<u>01/11/2017</u> <u>02/11/2017</u> <u>17/11/2017</u> <u>22/11/2017</u> <u>28/11/2017</u> <u>29/11/2017</u>	<u>02/11/2017</u> <u>07/11/2017</u> <u>22/11/2017</u> <u>29/11/2017</u>	<u>02/11/2017</u> <u>07/11/2017</u>	-
<u>December 2017</u>	-	<u>01/12/2017</u> <u>20/12/2017</u> <u>22/12/2017</u> <u>28/12/2017</u>	<u>07/12/2017</u> <u>09/12/2017</u> <u>20/12/2017</u> <u>21/12/2017</u>	<u>06/12/2017</u> <u>09/12/2017</u> <u>14/12/2017</u> <u>20/12/2017</u>	-

Market Operator Monthly Report

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>January 2018</u>	<u>07/01/2018</u>	<u>05/01/2018</u> <u>10/01/2018</u> <u>11/01/2018</u>	<u>23/01/2018</u> <u>24/01/2018</u>	<u>19/01/2018</u> <u>23/01/2018</u>	-
<u>February 2018</u>	-	<u>9/02/2018</u> <u>13/02/2018</u> <u>21/02/2018</u> <u>22/02/2018</u> <u>26/02/2018</u>	<u>10/02/2018</u> <u>14/02/2018</u> <u>21/02/2018</u>	<u>14/02/2018</u> <u>21/02/2018</u>	-
<u>March 2018</u>	-	<u>12/03/2018</u>	<u>15/03/2018</u> <u>19/03/2018</u>	<u>04/03/2018</u> <u>29/03/2018</u>	-
<u>April 2018</u>	-	-	<u>04/04/2018</u>	<u>24/04/2018</u>	-

Table 29 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
02/10/2017	03/10/2017	EA2	€1,000	€217.09	MIP
05/10/2017	04/10/2017	EP1	€1,000	€90.22	MIP
07/10/2017	06/10/2017	EP1	€1,000	€281.63	MIP
10/10/2017	10/10/2017	WD1	€-1,000	€279.20	MIP
14/10/2017	15/10/2017	EA1	€800	€283.57	MIP
16/10/2017	16/10/2017	WD1	€-100	€61.23	MIP
23/10/2017	24/10/2017	EA2	€1,000	€278.95	MIP
24/10/2017	20/10/2017	EP2	€1,000	€280.03	MIP

Market Operator Monthly Report

25/10/2017	26/10/2017	EA2	€1,000	€233.58	MIP
27/10/2017	26/10/2017	EP1	€1,000	€180.39	MIP
28/10/2017	24/10/2017	EP2	€1,000	€278.95	MIP
30/10/2017	26/10/2017	EP2	€1,000	€180.41	MIP
31/10/2017	01/11/2017	EA2	€1,000	€238.84	MIP
01/11/2017	02/11/2017	EA2	€1,000	€85.41	MIP
03/11/2017	02/11/2017	EP1	€1,000	€284.58	MIP
06/11/2017	02/11/2017	EP2	€1,000	€284.58	MIP
08/11/2017	07/11/2017	EP1	€1,000	€339.71	MIP
11/11/2017	07/11/2017	EP2	€1,000	€339.91	MIP
16/11/2017	17/11/2017	EA2	€1,000	€85.36	MIP
21/11/2017	22/11/2017	EA2	€1,000	€193.71	MIP
23/11/2017	22/11/2017	EP1	€1,000	€221.35	MIP
27/11/2017	28/11/2017	EA2	€1,000	€108.33	MIP
28/11/2017	29/11/2017	EA2	€1,000	€187.20	MIP
30/11/2017	29/11/2017	EP1	€1,000	€172.52	MIP
30/11/2017	01/12/2017	EA2	€1000.00	€283.15	MIP
08/12/2017	07/12/2017	EP1	€1000.00	€253.87	MIP
10/12/2017	06/12/2017	EP2	-€100.00	€27.27	MIP
10/12/2017	09/12/2017	EP1	€1000.00	€916.29	MIP
13/12/2017	09/12/2017	EP2	€1000.00	€135.97	MIP
18/12/2017	14/12/2017	EP2	-€100.00	€283.70	MIP
19/12/2017	20/12/2017	EA2	€1000.00	€231.32	MIP
21/12/2017	22/12/2017	EA2	€1000.00	€186.70	MIP

Market Operator Monthly Report

21/12/2017	20/12/2017	EP1	€1000.00	€285.26	MIP
22/12/2017	21/12/2017	EP1	€1000.00	€400.67	MIP
24/12/2017	20/12/2017	EP2	€1000.00	€256.42	MIP
27/12/2017	28/12/2017	EA2	€1000.00	€226.38	MIP
04/01/2018	05/01/2018	EA2	€1000.00	€122.29	MIP
06/01/2018	07/01/2018	EA1	€900.00	€85.37	MIP
09/01/2018	10/01/2018	EA2	€1000.00	€235.37	MIP
10/01/2018	11/01/2018	EA2	€1000.00	€403.47	MIP
23/01/2018	19/01/2018	EP2	€1000.00	€156.69	MIP
24/01/2018	23/01/2018	EP1	€1000.00	€55.85	MIP
25/01/2018	24/01/2018	EP1	€1000.00	€106.77	MIP
27/01/2018	23/01/2018	EP2	€1000.00	€139.54	MIP
08/02/2018	09/02/2018	EA2	€1000.00	€250.13	MIP
11/02/2018	10/02/2018	EP1	-€88.79	€69.17	MIP
12/02/2018	13/02/2018	EA2	€1000.00	€219.35	MIP
15/02/2018	14/02/2018	EP1	€1000.00	€223.04	MIP
18/02/2018	14/02/2018	EP2	€1000.00	€157.40	MIP
20/02/2018	21/02/2018	EA2	€1000.00	€341.67	MIP
22/02/2018	21/02/2018	EP1	€1000.00	€178.92	MIP
25/02/2018	21/02/2018	EP2	€1000.00	€282.20	MIP
21/02/2018	22/02/2018	EA2	€1000.00	€107.21	MIP
25/02/2018	26/02/2018	EA2	€1000.00	€212.14	MIP
08/03/2018	04/03/2018	EP2	€1000.00	€221.57	MIP
11/03/2018	12/03/2018	EA1	€1000.00	€208.60	MIP

Market Operator Monthly Report

16/03/2018	15/03/2018	EP1	€1000.00	€ 124.96	MIP
20/03/2018	19/03/2018	EP1	€1000.00	€283.28	MIP
02/04/2018	29/03/2018	EP2	€1000.00	€331.59	MIP
05/04/2018	04/04/2018	EP1	€1000.00	€86.92	MIP
28/04/2018	24/04/2018	EP2	€1000.00	€319.23	MIP

Table 30 - MIP Vs LR Peak Price Comparison