



Market Operator Monthly Report

January 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.....	9
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.....	24
1.4.1 MSP Postings January 2018.....	25
6.4.2 MSP Algorithms	28
1.4.1 Settlement Postings January 2018.....	29
6.5. – NO UPDATE FOR DECEMBER 2017.....	30
OCCASIONAL COMPONENTS	31
7.1 DISASTER RECOVERY/BUSINESS CONTINUITY TESTS	31
7.3 COMMUNICATIONS OR SYSTEMS FAILURES	31
7.4 DENIAL OF SERVICE ATTACKS.....	31
7.5 SUBMISSION OF PARAMETERS TO RAs FOR APPROVAL	31
APPENDIX A: DETAIL OF TRADING AND SETTLEMENT CODE BREACHES.....	32
MARKET PARTICIPANT	32
SEMO - PRICING AND SCHEDULING	32
SEMO – SETTLEMENTS.....	32
SEMO - FUNDS TRANSFER.....	32
SEMO - CREDIT MANAGEMENT	33
SEMO – OTHER.....	33
APPENDIX B: LIST OF QUERIES BY TYPE	34
APPENDIX C: LIST OF ALL SYSTEM ERRORS AND FAILURES.....	35
APPENDIX D: DETAILS OF OPERATIONAL TIMINGS	36
MARKET SCHEDULE AND PRICE RUNS.....	36
SETTLEMENT RUNS	37
APPENDIX E: IMPERFECTIONS CHARGE.....	38
APPENDIX F: DEFAULT COMMERCIAL OFFER DATA USED	46

APPENDIX G: TOTAL CHARGES AND PAYMENTS DATA.....	51
APPENDIX H: FULL BALANCING COSTS.....	53
TRADING MARKET	53
CAPACITY MARKET.....	53
APPENDIX I: MSP ALGORITHMS	55

Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of January 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 January 2018, there were no late Settlement publications as per the Trading and Settlement code.

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

There were 16 defaults by Participants during January 2018. The largest of these was an Capacity December 2018 Initial invoice for €35,998.33 which was remedied on the same day.

There was 1 Credit Cover Increase defaults during January 2018 as per the Trading and Settlement code timelines.

180 general queries were received in January 2018. During the same period 178 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	16	-
	Credit Risk Management	1	-
SEMO	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
Total		17	-

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 January 2018

- PY_000194 Ronaver Energy Limited

There were no terminating parties in January 2018.

No units went effective in the Market in January 2018.

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

Suspension of Participants

One Suspension Order was issued by the Market Operator in January 2018.

- PY_000115 – Aughrim Power Supply Limited

Financial Statistics

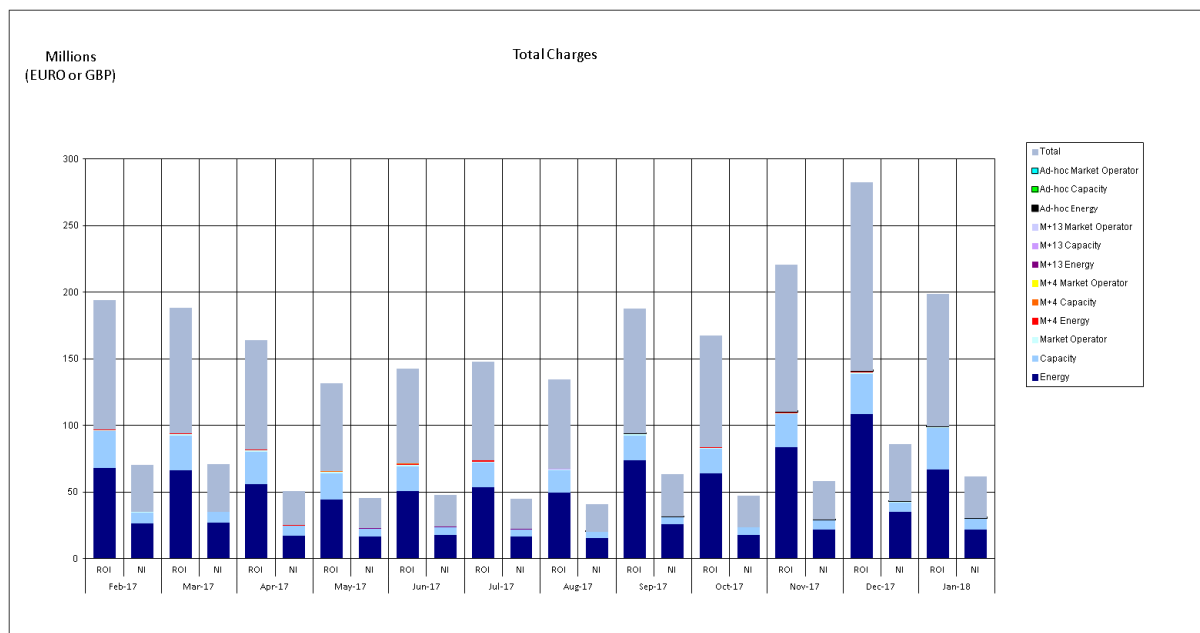


Figure 1 - Total Charges for Each Currency

Market	Jan 2018	
	ROI	NI
Energy	€66,824,388	£21,801,403
Capacity	€31,236,649	£8,153,352
Market Operator	€796,356	£211,139
M+4 Energy	€272,646	£105,765
M+4 Capacity	€136,641	£76,139
M+4 Market Operator	€1,965	£735
M+13 Energy	€56,253	£22,938
M+13 Capacity	€18,996	£7,983
M+13 Market Operator	€347	£151
Ad-hoc Energy	€320	£275,137
Ad-hoc Capacity	€2,955	£85,909
Ad-hoc Market Operator	€2,955	£85,909
Total	€99,350,474	£30,826,559

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

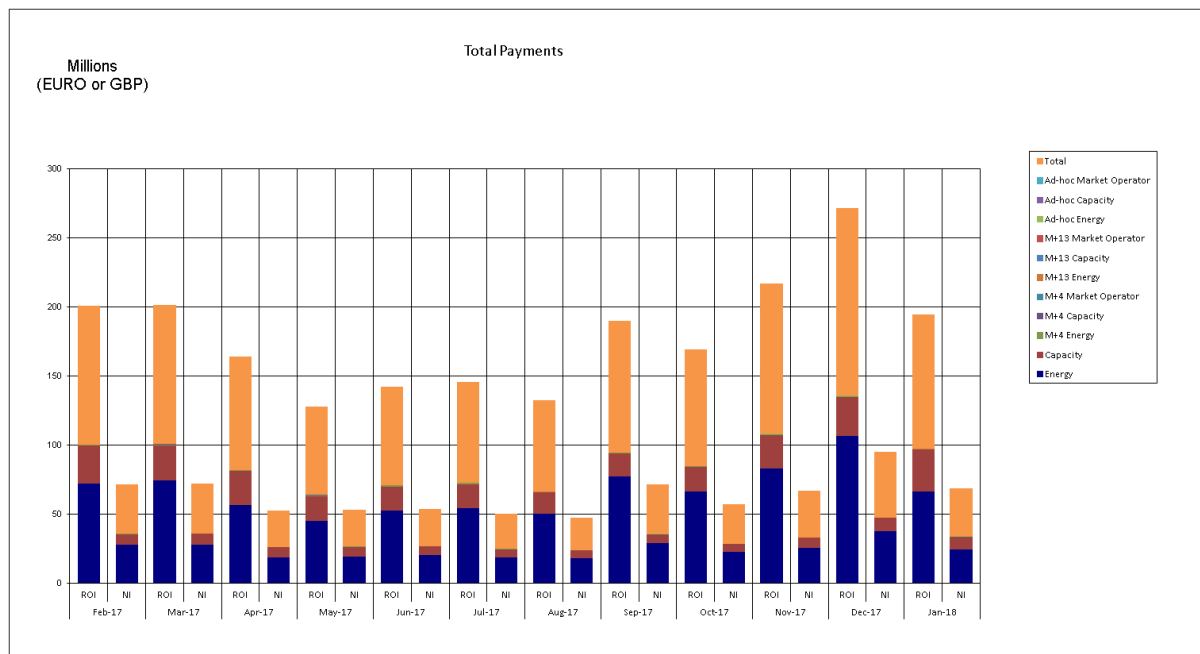


Figure 2 - Total Payments for Each Currency

Market	Jan 2018	
	ROI	NI
Energy	€66,556,847	£24,598,646
Capacity	€30,184,517	£9,075,820
M+4 Energy	€264,692	£105,488
M+4 Capacity	€140,422	£72,783
M+4 Market Operator	€601	£685
M+13 Energy	€56,245	£22,941
M+13 Capacity	€18,750	£8,210
M+13 Market Operator	€347	£151
Ad-hoc Energy	€37	£270,100
Ad-hoc Capacity	€16,333	£74,415
Ad-hoc Market Operator	€0	£1,312
Total	€97,238,791	£34,230,549

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:

January 2018	
Imbalance (Energy Only)	-€5,195,265.86

Table 4 - Balancing Costs for Energy Settlement

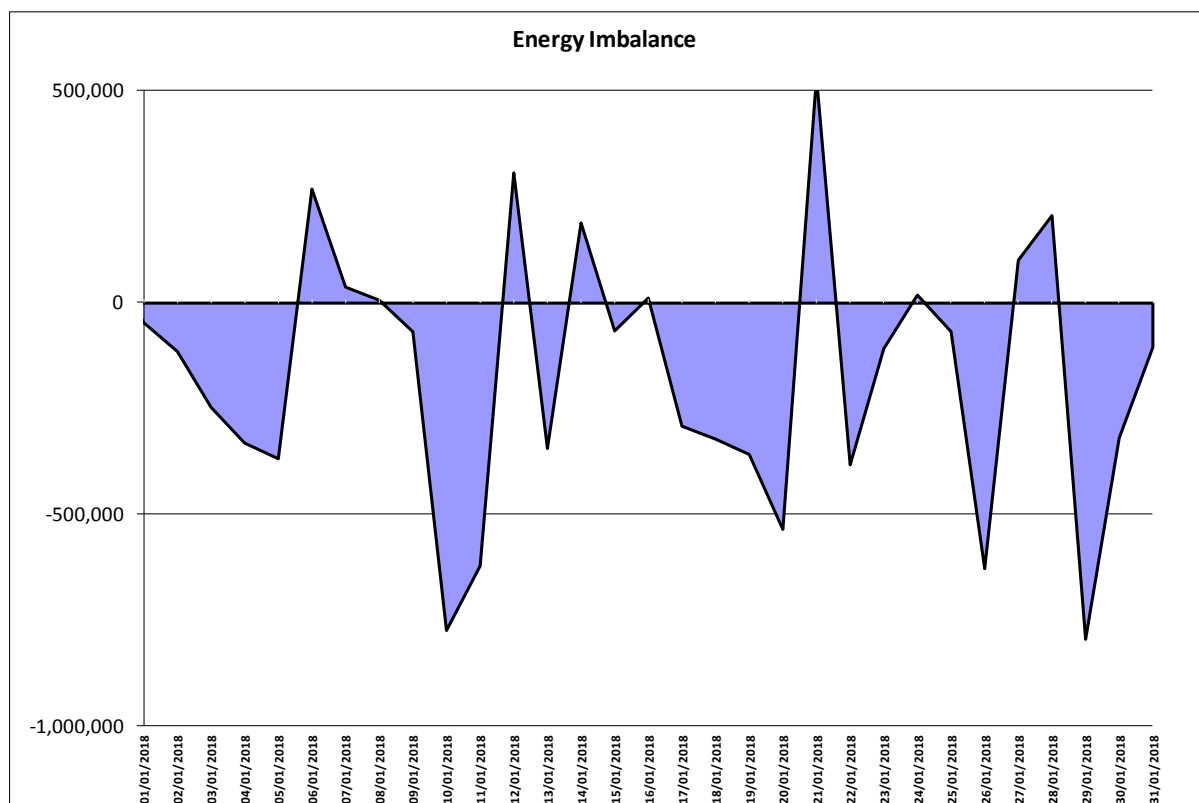


Figure 3 – Energy Imbalances

Market Operator Monthly Report

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](#).

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
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

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:

January 2018	
Capacity Charges	€ 5,355,618.80
Capacity Payments	€ 5,355,310.41
Balancing Costs	€ -308.39
VAT	€0

Table 6 - Balancing Costs for Capacity Settlement

Market Operator Monthly Report

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
30/12/2017	05/01/2018	52	£6,762.98	£-	£6,762.98
06/01/2018	12/01/2018	53	-£19,695.47	£-	-£19,695.47
13/01/2018	19/01/2018	1	-£5,373.10	£-	-£5,373.10
20/01/2018	26/01/2018	2	-£15,865.96	£-	-£15,865.96

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 £6,672.98 and a loss of up to £19,695.47. 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.

Market Operator Monthly Report

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.

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
10/01/2018	Dec 2017	£15,331.08

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
€87,573,710.49	-€1,332,975.00	€1,875,400.02	-€60,343,944.30

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.

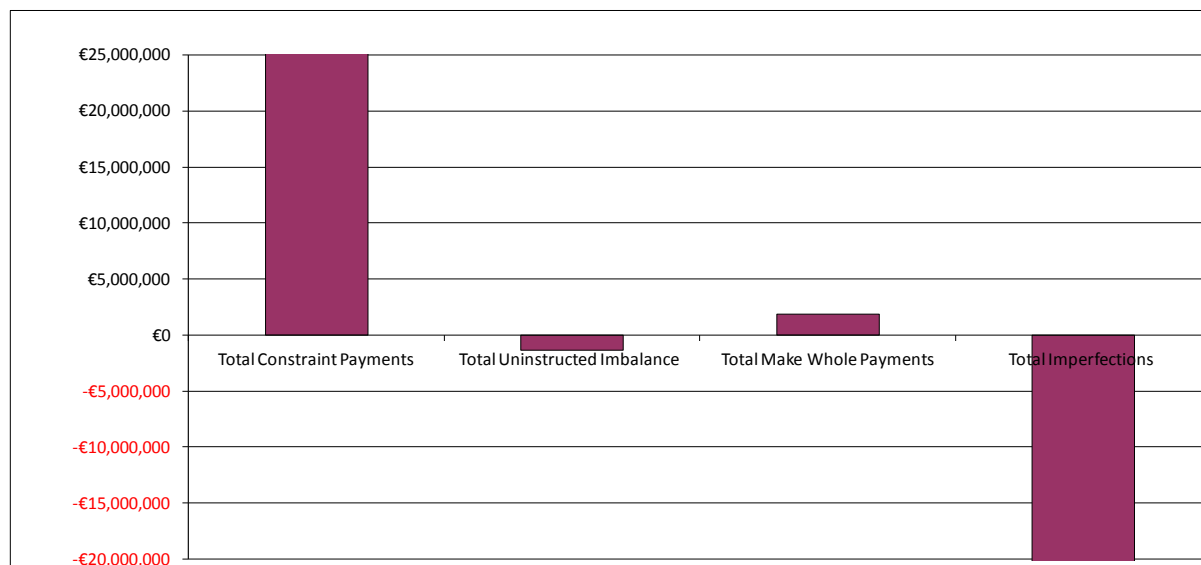


Figure 4 - Cumulative Imperfections Costs Vs Budget

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 September 2017 and M+13 resettlement period of December 2016 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

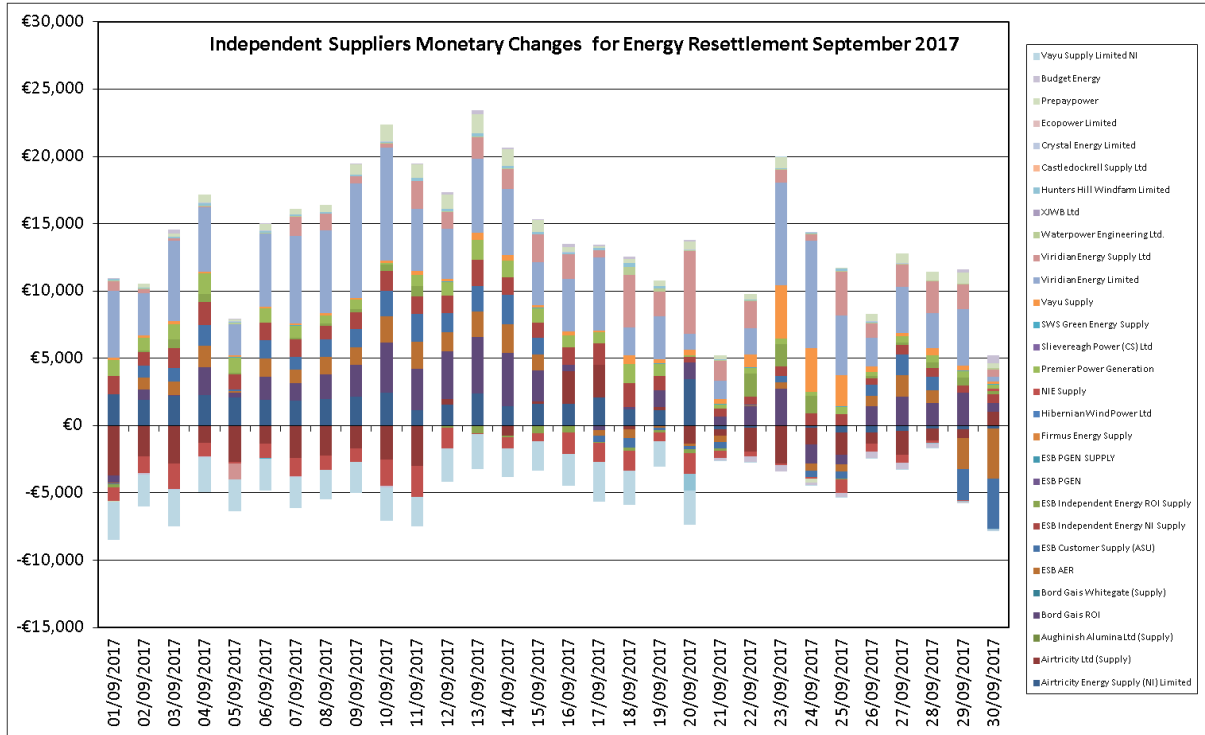


Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement - September 2017

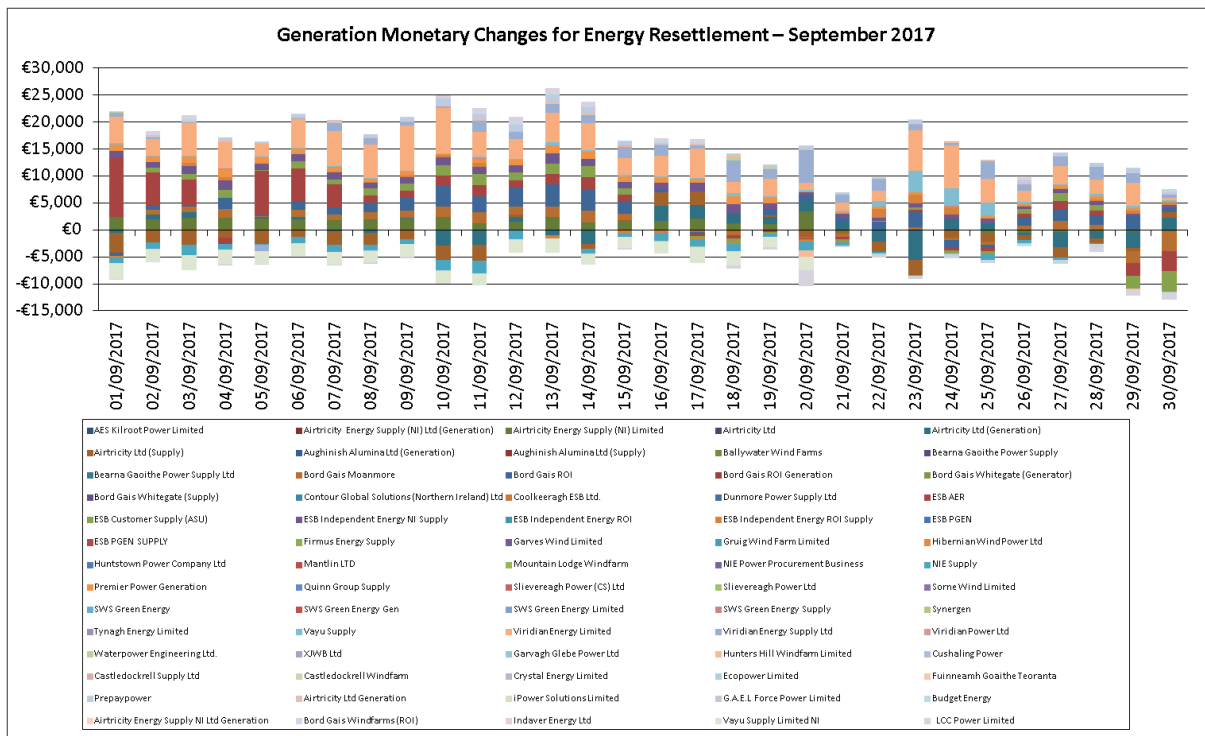


Figure 6 – Generation Monetary Changes for Energy Resettlement – September 2017

Market Operator Monthly Report

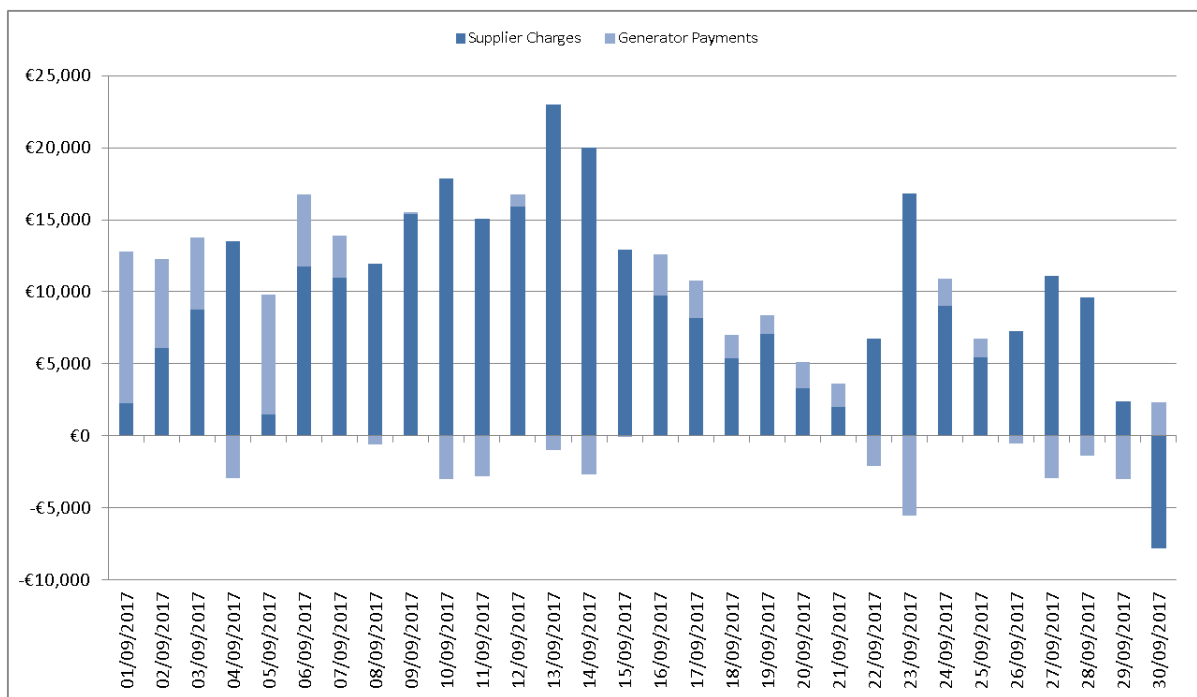


Figure 7 – Total Monetary Changes for Energy Resettlement – September 2017

Market Operator Monthly Report

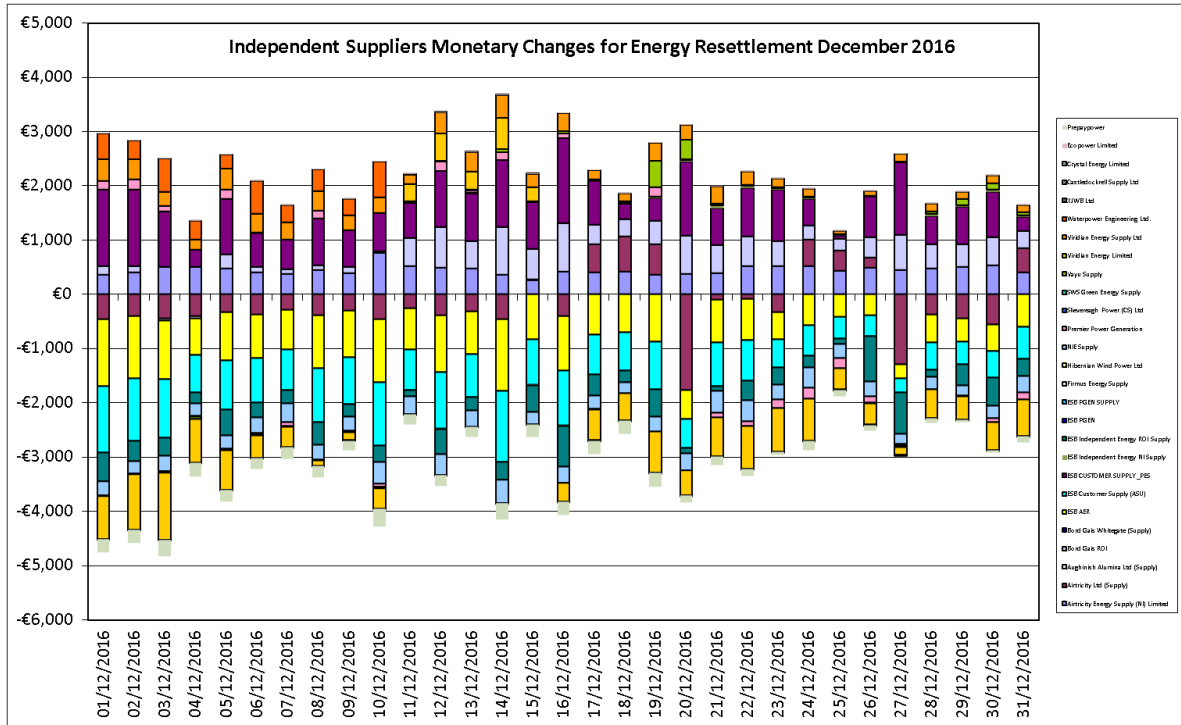


Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – December 2016

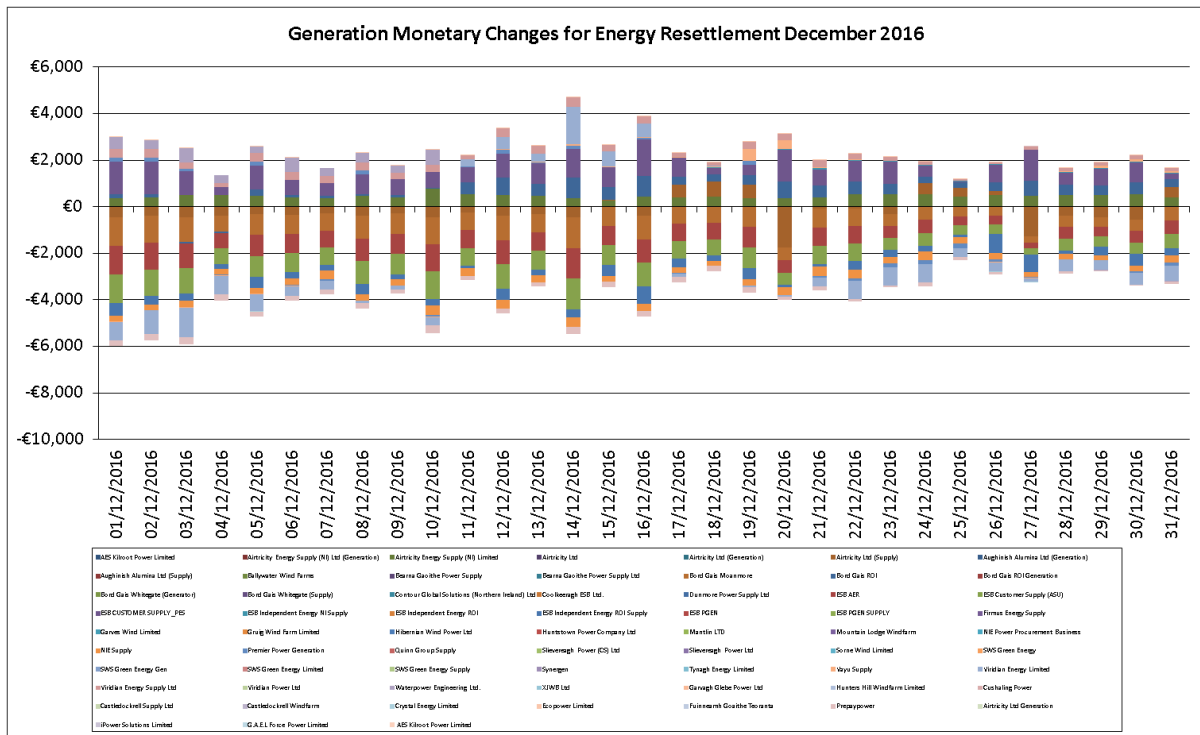


Figure 9 - Generation Monetary Changes for Energy Resettlement – December 2016

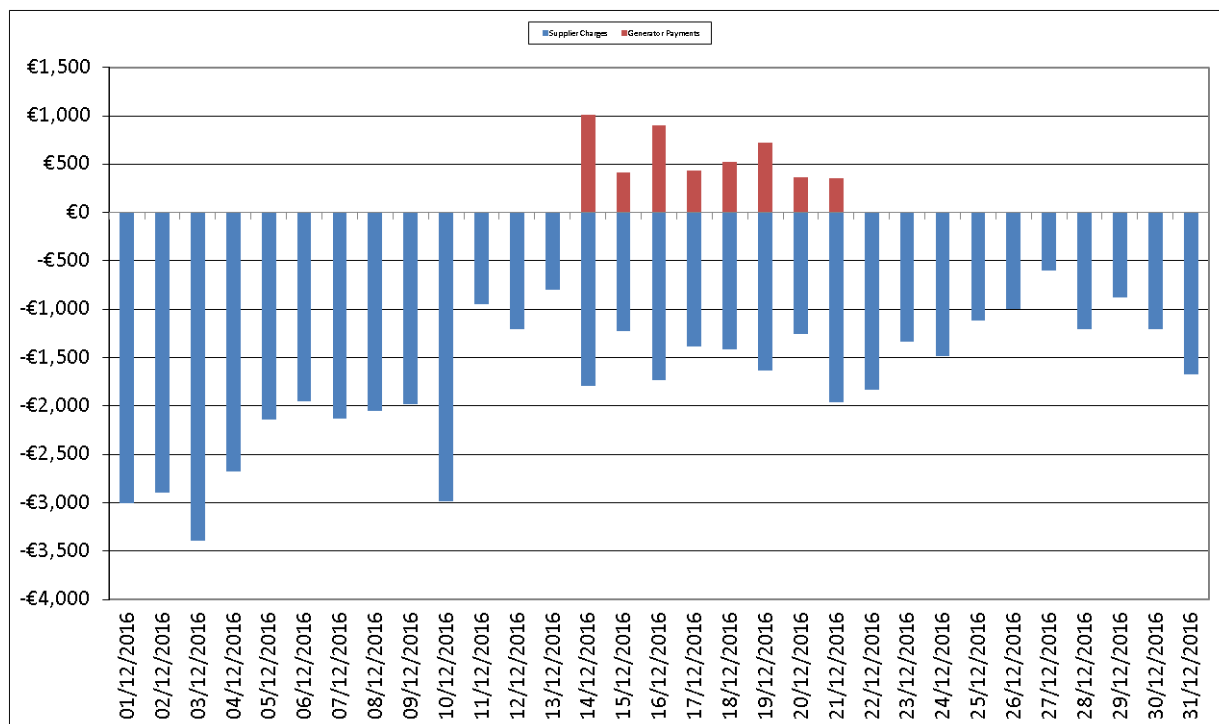


Figure 10 - Total Monetary Changes for Energy Resettlement – December 2016

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

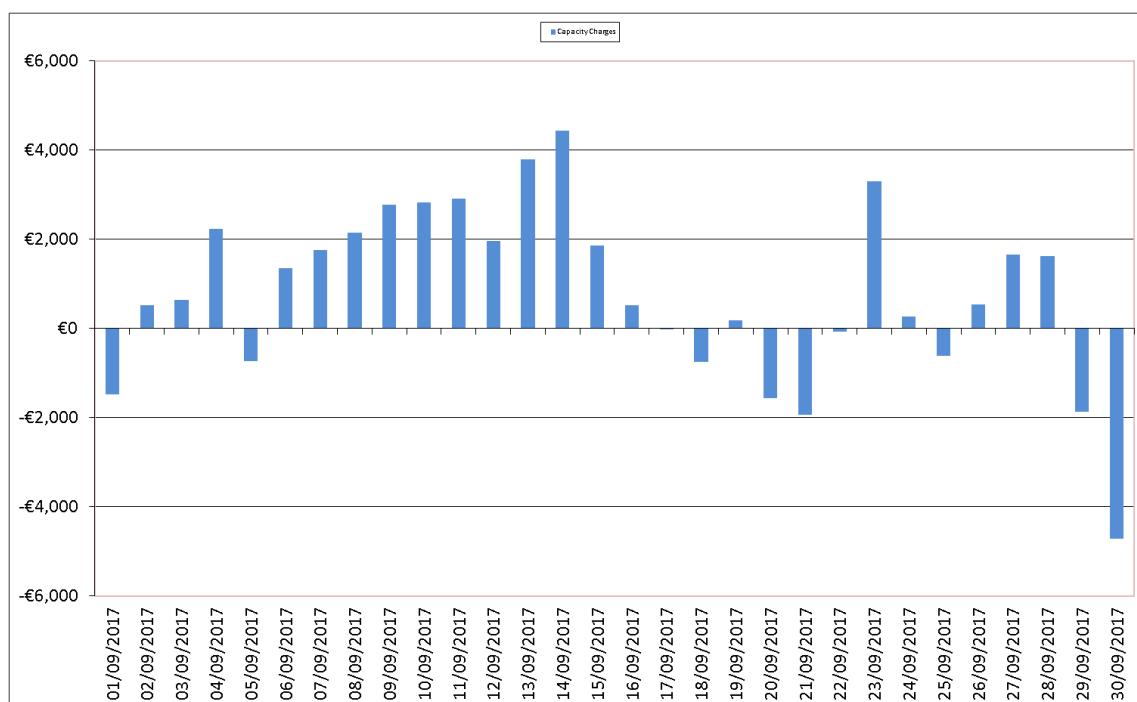


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – September 2017

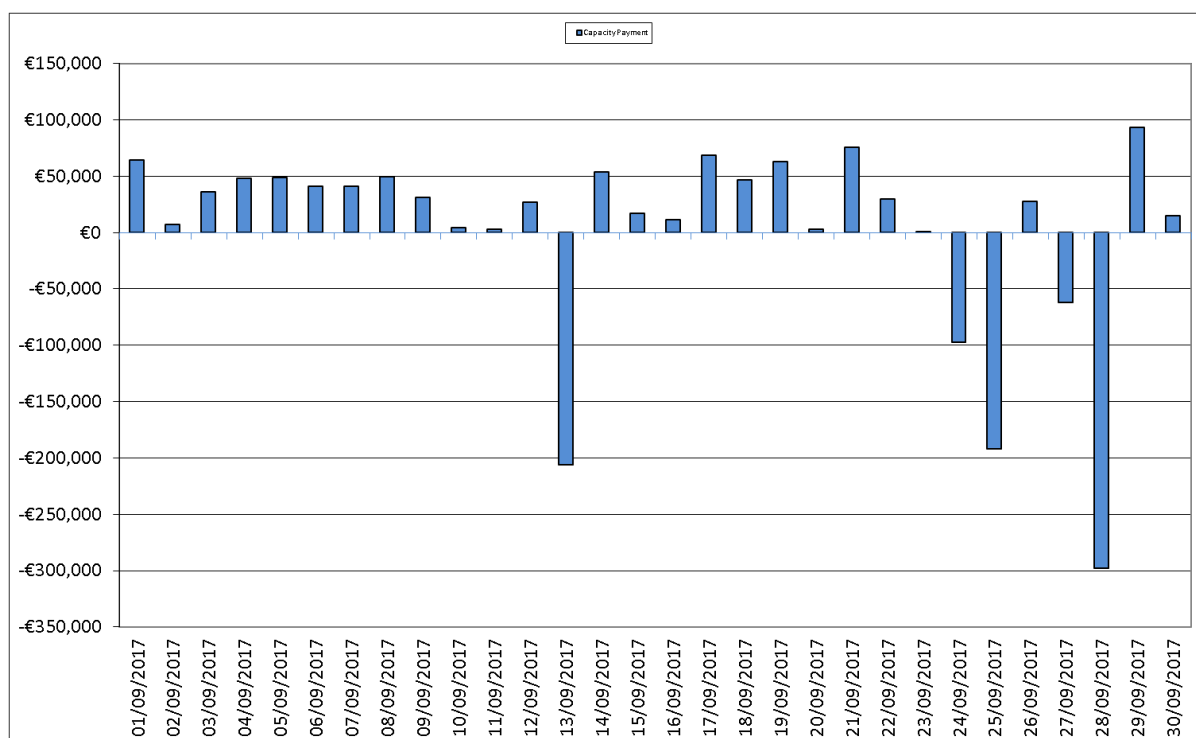


Figure 12 - All Generation Monetary Change for Capacity Resettlement – September 2017

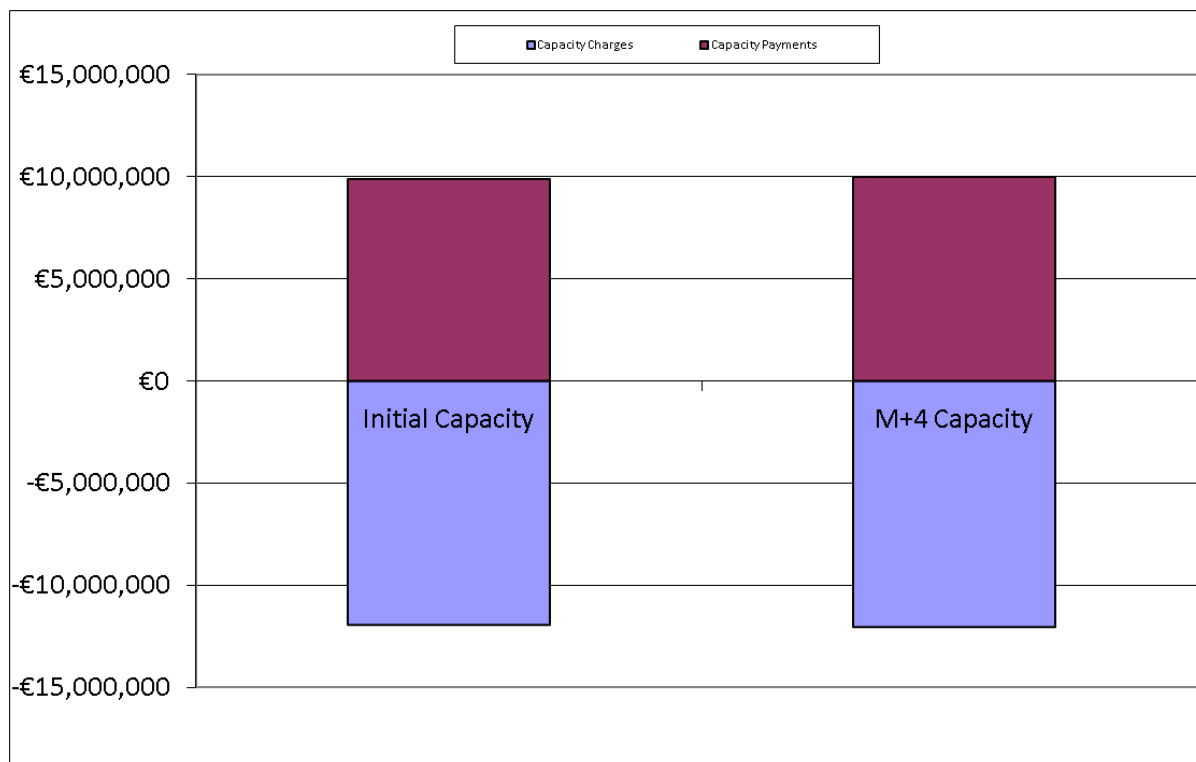


Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement September 2017.

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

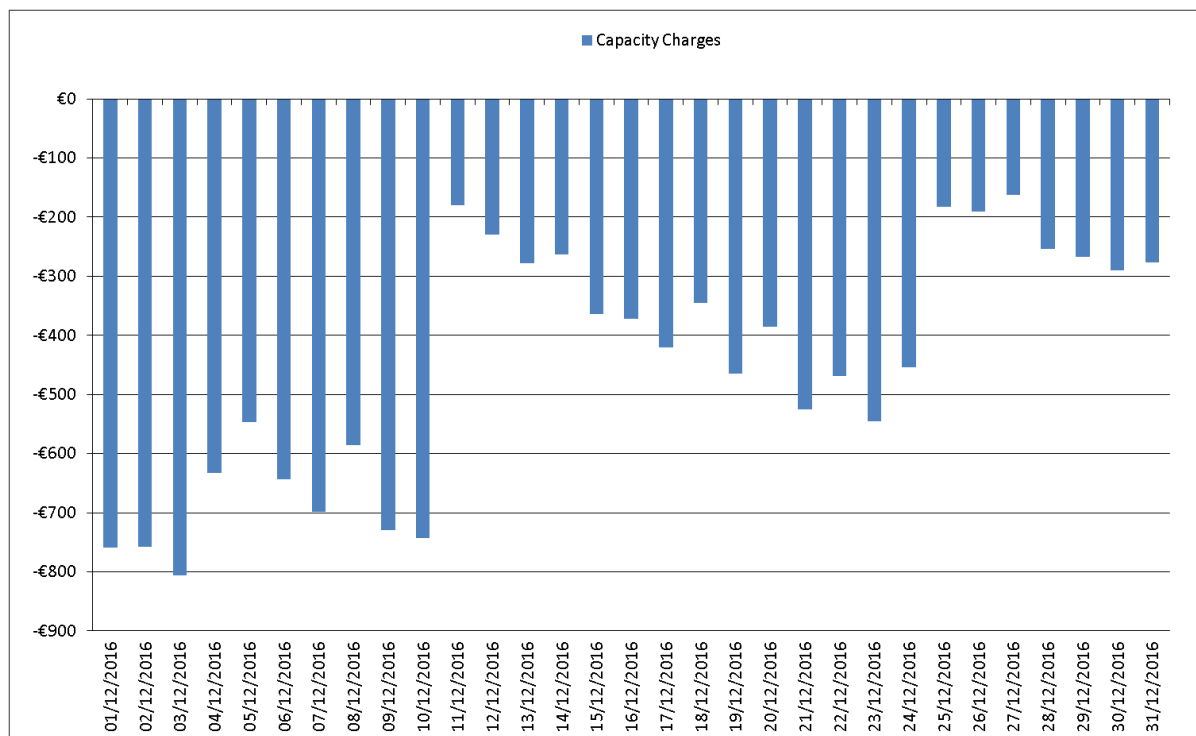


Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – December 2016

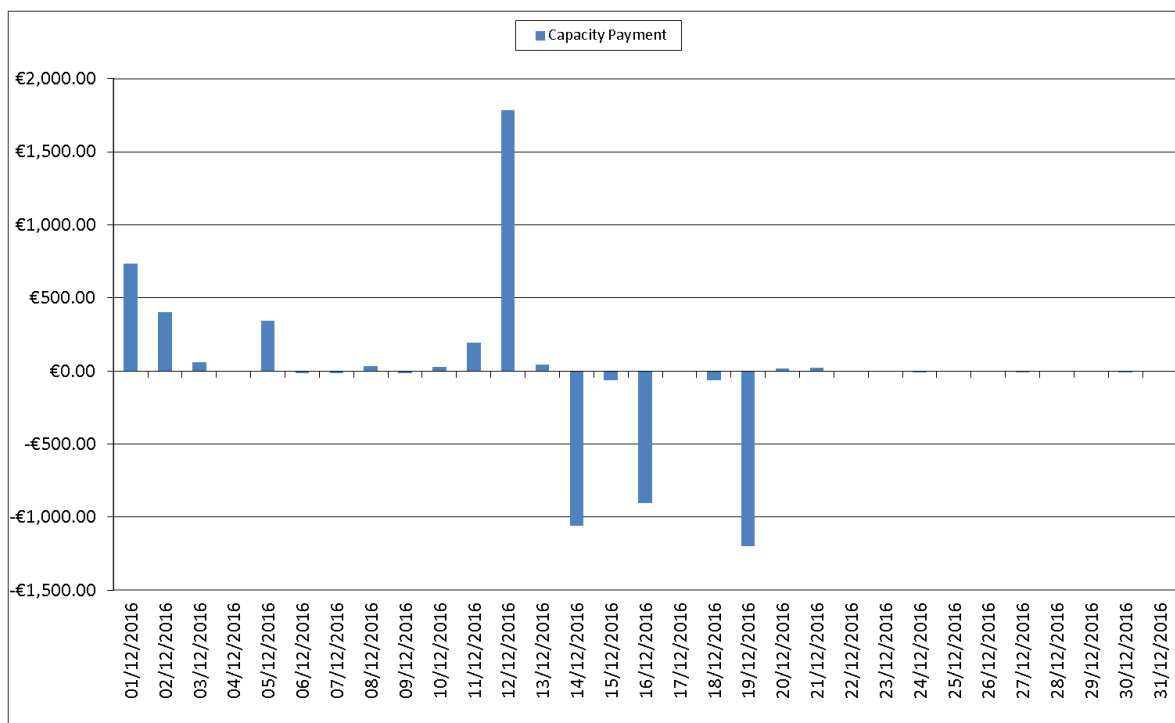


Figure 15 – All Generation Monetary Change for Capacity Resettlement – December 2016

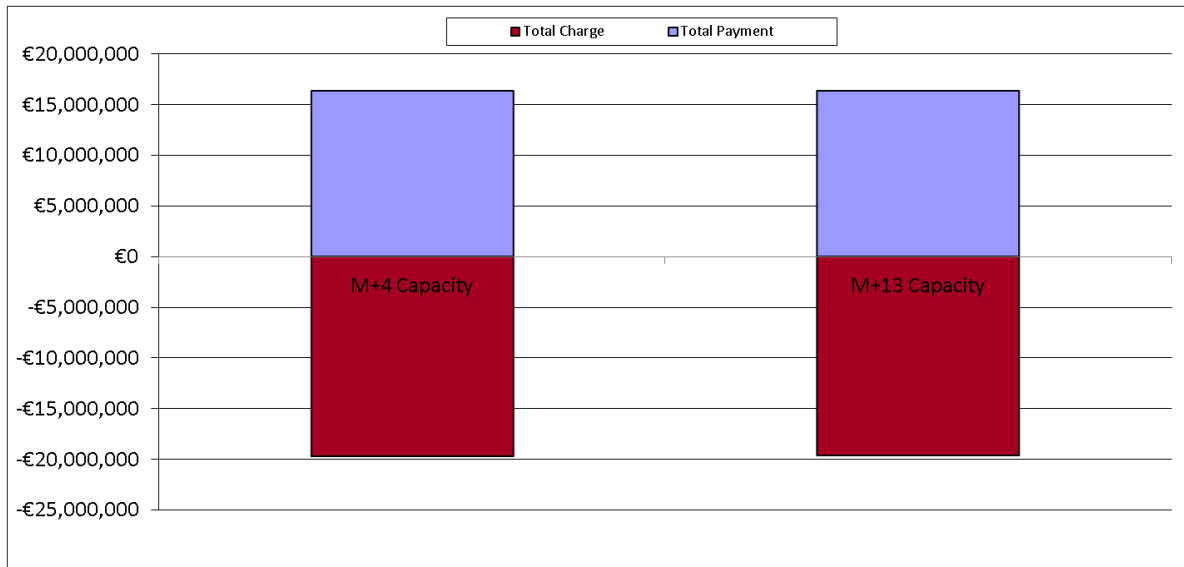


Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – December 2016

Helpdesk Call Statistics

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

Market Helpdesk Report: 01/01/18 to 31/01/18

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	180	162	18	177	1.57	170
Important	0	0	0	1	2.31	0
Urgent	0	0	0	0	0.00	0
Settlement	6	5	1	6	7.52	6
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	186	167	19	184	2.28	176

Table 10 – Helpdesk Statistics

Definitions:

- Resolved within the Period refers to queries raised and resolved within the calendar month of January 2018.
- Resolved in the Period refers to queries resolved within January 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 January 2018.
- Not Resolved refers to queries raised but not resolved within January 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 decreased by 0.01 working days from 1.58 in December 2017 to 1.57 in January 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 January 2018 with regard to formal Settlement Queries.

Disputes and Queries

5.1.1 Disputes

No Disputes were raised during the month of January 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 January 2018.

Topic	Number Of Queries

Table 12– Upheld Data Queries by Topic

5.1.3 Settlement Queries

There were six formal Settlement queries raised in January 2018. Five queries were upheld and have since been resolved.

Topic	Number Of Queries
Meter Demand/Generation	1
Actual Availabilities	2
Dispatch Instructions	1
LOLP	1
Meter Demand	1

Table 13 – Upheld Settlement Queries by Topic

- Two queries relating to SO-SO Trades were raised. These are to be corrected within M+4 resettlement. The three queries were deemed to be of Low Materiality.
- One query relating to Meter Generation was raised. This is to be corrected within M+4 resettlement. The query was deemed to be of Low Materiality.

Unresolved Queries

There are three unresolved settlement queries as of the 14th February 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, 65.16% of data used was submitted by Participants through the normal Bid-Offer process. 34.84% 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 January 2018.

There were 1 Ad hoc Re-Settlement run carried out in January 2018.

6.3.2 System Errors

There were no Market Application defects found in January 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 January 2018.

1.4.1 MSP Postings January 2018

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close	31-31	0	0	0
Post EA1	31-31	0	0	0
Post EA2	31-31	0	0	0
Post WD1	30-31	0	0	1
Post EP1	31-31	0	0	0
Post EP2	31-31	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	97%	0%	0%	3%
Post EP1	100%	0%	0%	0%
Post EP2	100%	0%	0%	0%

Table 15 - Operational Timings (% on time)

Market Operator Monthly Report

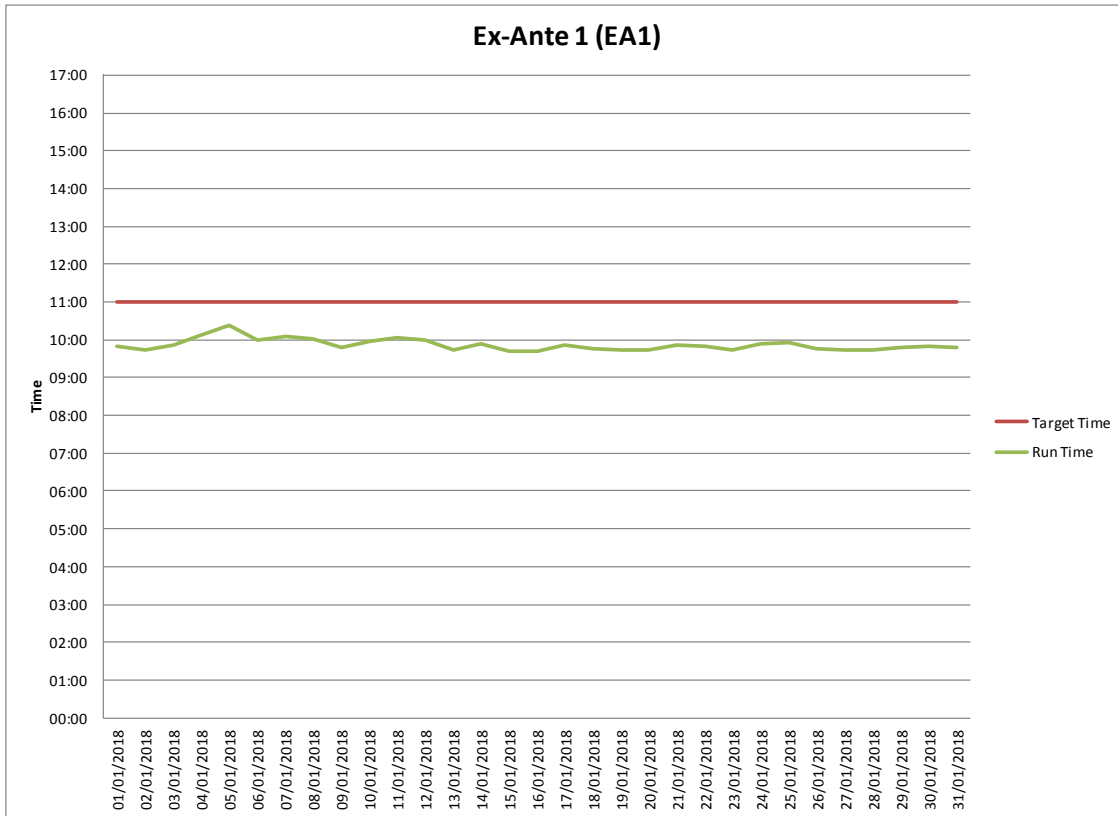


Figure 17 – Ex-Ante 1

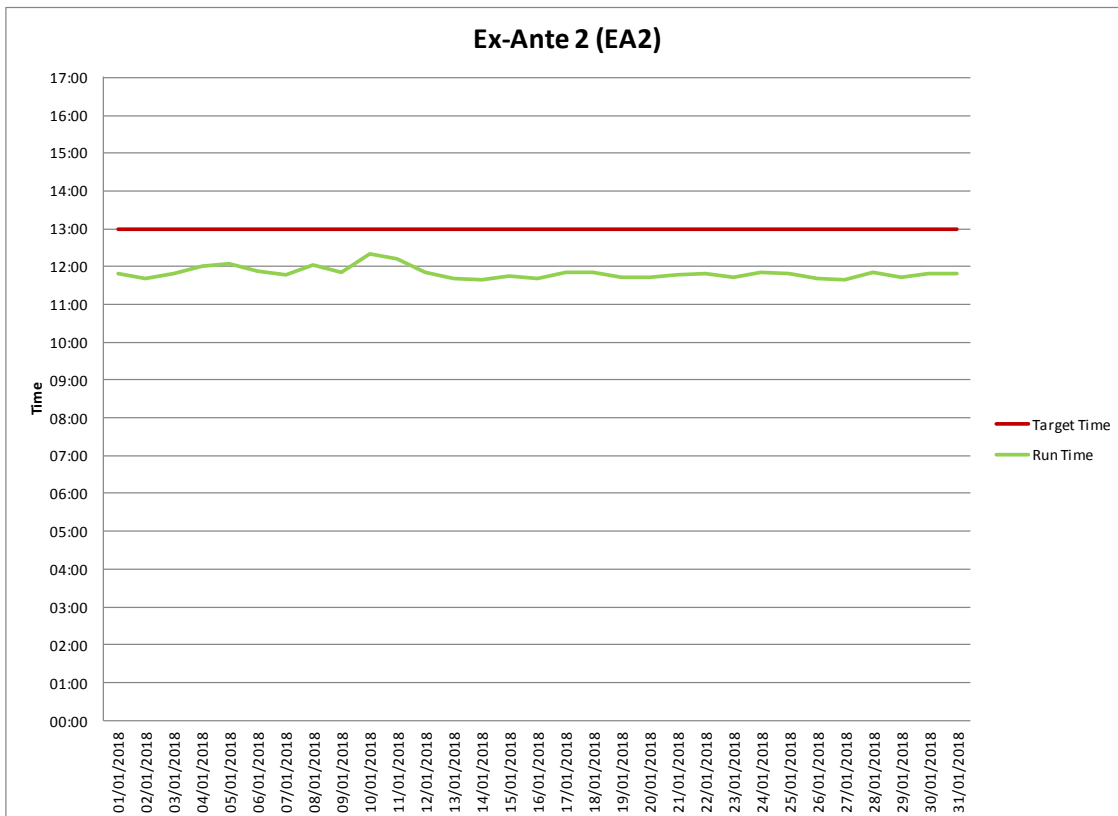


Figure 18 – Ex-Ante 2

Market Operator Monthly Report

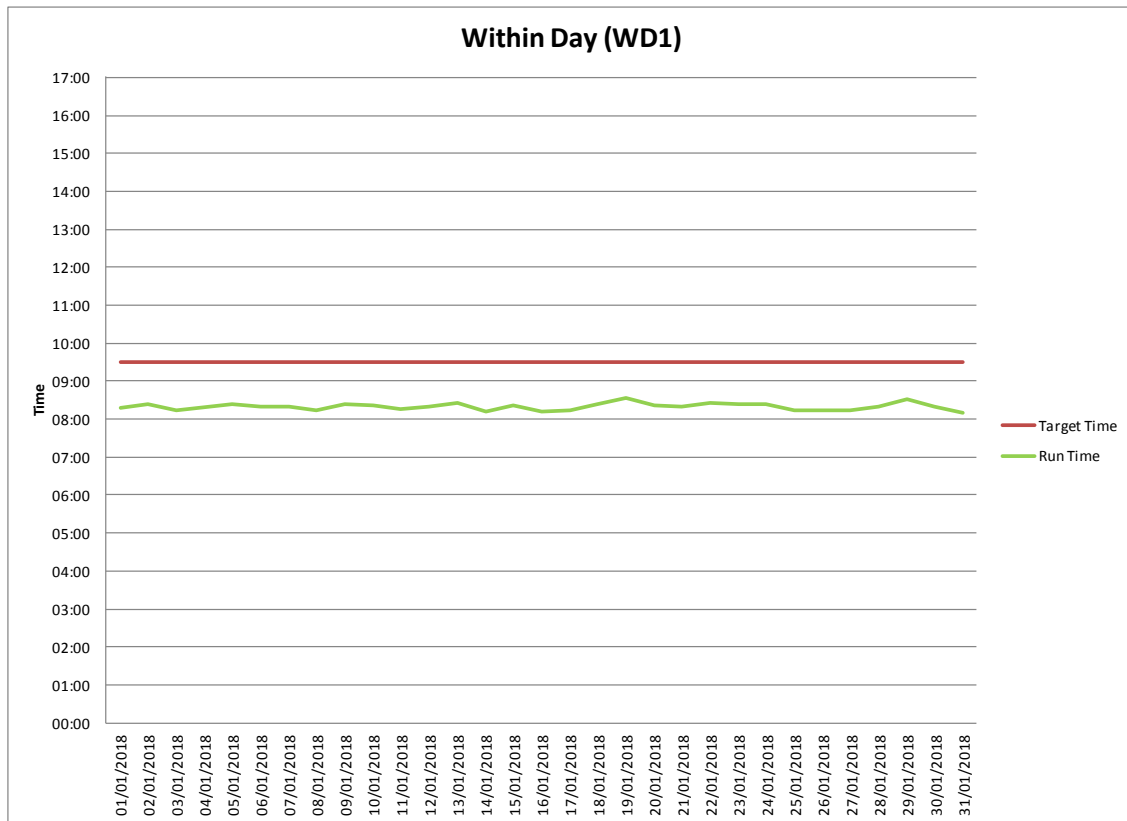


Figure 19 – Within Day 1

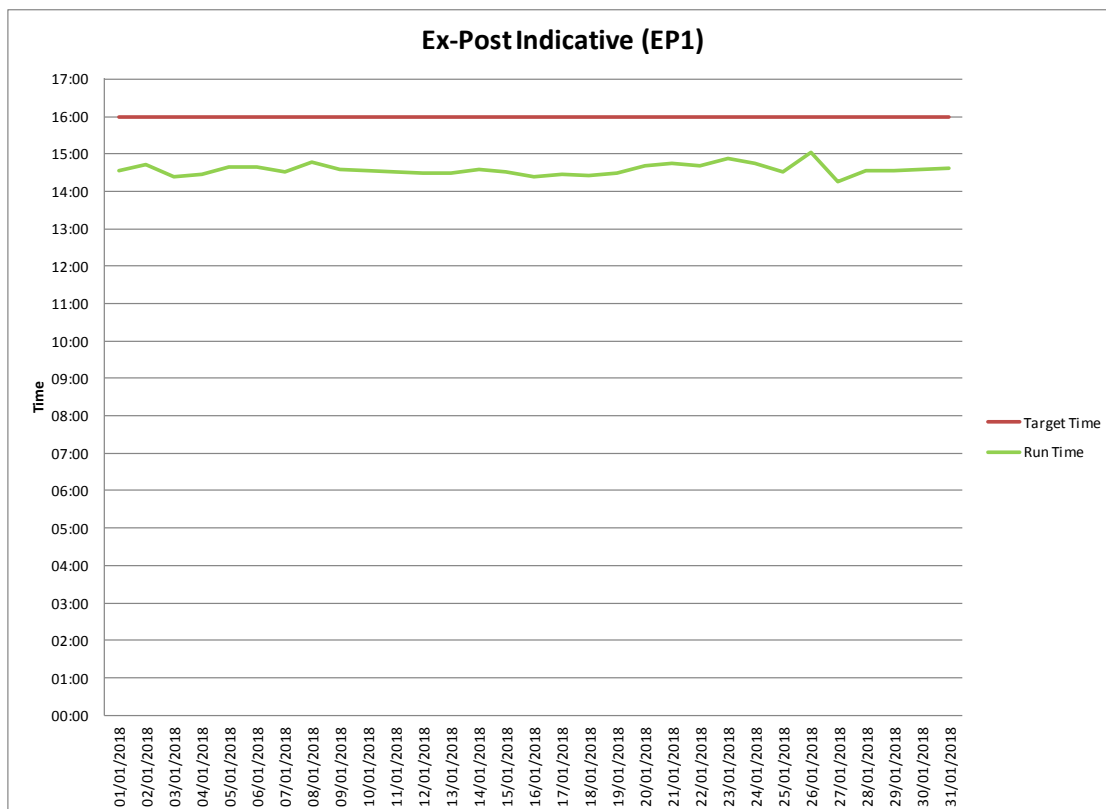


Figure 20 - Ex-Post Indicative

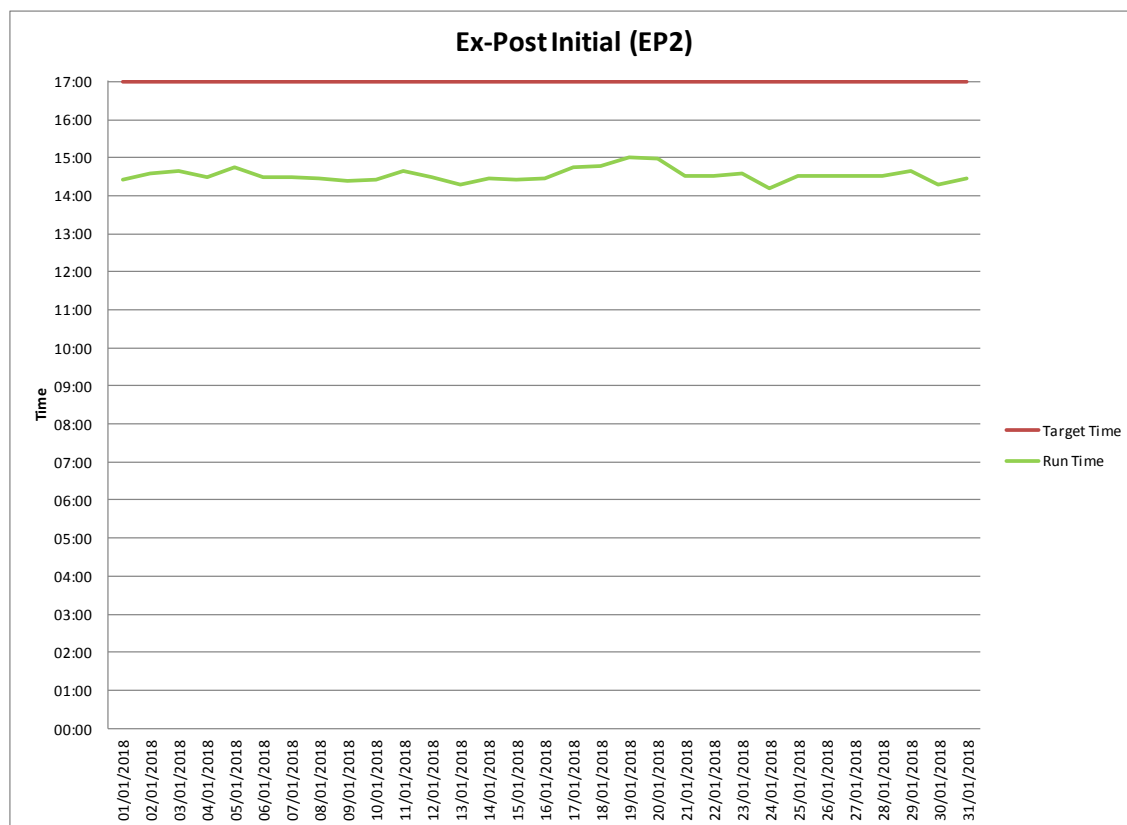


Figure 21 - Ex-Post Initial

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 maybe selected for publishing. An updated policy document on the use of MIP has been published and is available on the SEMO website [here](#).

In January 2018, there were 8 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 January 2018

The publication timings for Settlement runs are provided below.

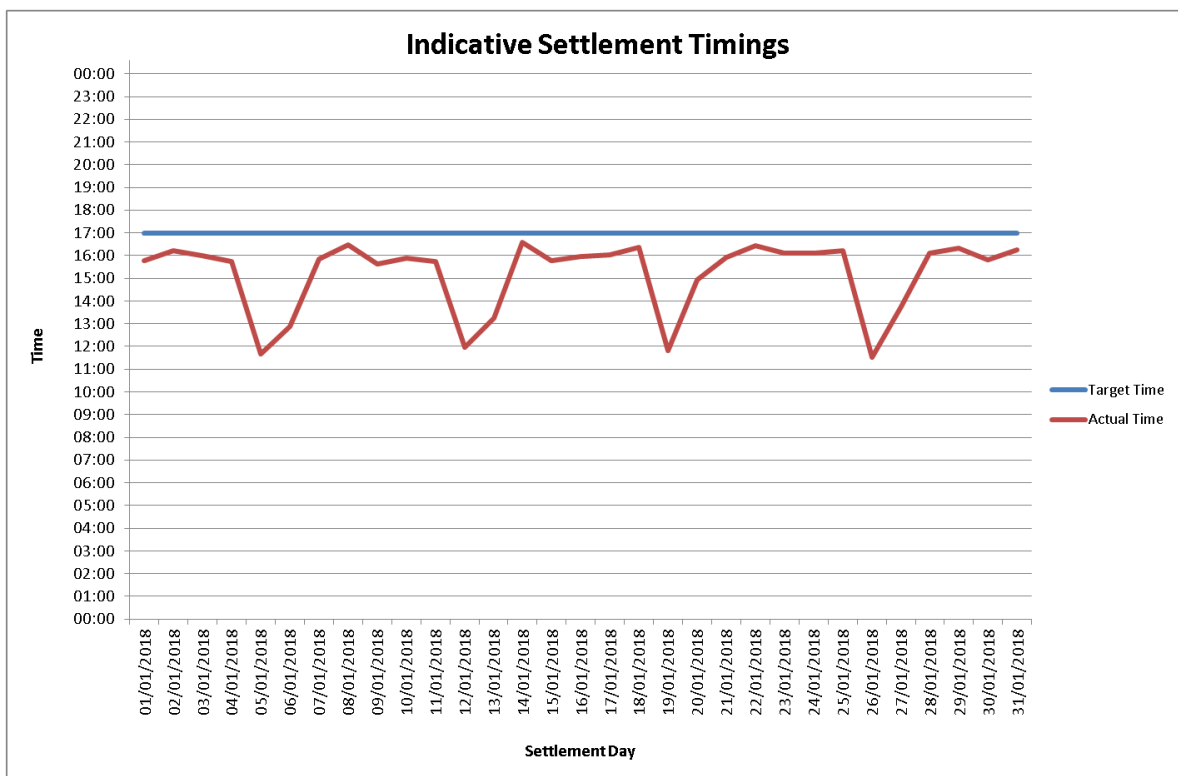


Figure 22 - Indicative Settlement Postings

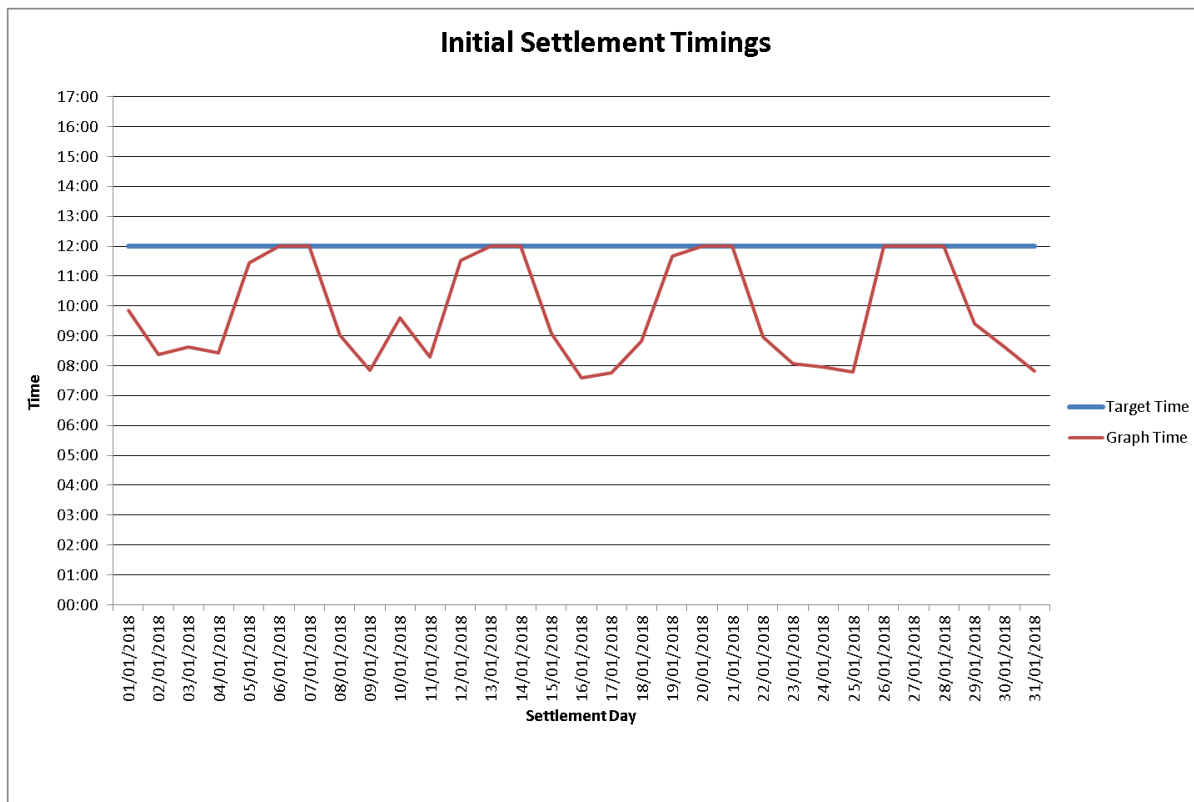


Figure 23 - Initial Settlement Postings

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

6.5. – No update for January 2018

Occasional Components

7.1 Disaster Recovery/Business Continuity Tests

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

7.3 Communications or Systems Failures

There were no communication failures during January 2018.

7.4 Denial of Service Attacks

There was no Denial of Service Attacks during January 2018.

7.5 Submission of Parameters to RAs for Approval

Work on initial ISEM parameters for the Residual Error and Market Operator Tariffs was ongoing during January 2018.

Appendix A: Detail of Trading and Settlement Code Breaches

Data Provider

There were no breaches to report in January 2018.

Market Participant

Ops Date/Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
02/01/2018	Money In	Timing	Participant	Payment Default	Aughrim Power Supply Limited (PT_400119) defaulted on a Energy Week 50 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
02/01/2018	Money In	Timing	Participant	Payment Default	Mantlin Limited (PT_500039) defaulted on a Capacity August 2017 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/01/2018	Money In	Timing	Participant	Payment Default	Arden Energy (PT_400149) defaulted on an Energy Week 52 2017 Initial Invoice.	Participant Error	A default letter was issued to the participant.	Major
10/01/2018	Money In	Timing	Participant	Payment Default	Indaver Energy Ltd (PT_400088) defaulted on an Energy Week 52 2017 Initial Invoice.	Participant Error	A default letter was issued to the participant.	Major
12/01/2018	Money In	Timing	Participant	Payment Default	Powerhouse Generation Limited (PT_500070 / PT_400144) defaulted on a FMOC December 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
15/01/2018	Money In	Timing	Participant	Payment Default	Captured Carbon (PT_400168) defaulted on a Capacity December 2017 Initial invoice.	Participant Error.	A default letter was issued to the participant.	Major
17/01/2018	Money In	Timing	Participant	Payment Default	Arden Energy Limited (PT_400149) defaulted on an Energy Week 53 2017 Initial Invoice.	Participant Error.	A default letter was issued to the Participant.	Major
24/01/2018	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on a Energy Week 39 2017 M+ 4 Invoice.	Participant Error.	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	iPower Solutions Limited (PT_500053) defaulted on an September 2017 M+ 4 Capacity Invoice.	Participant error	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Gruig Wind Farm (PT_500047) defaulted on a September 2017 M+ 4 Capacity Invoice.	Participant error	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Garves Wind Limited (PT_500044) defaulted on an September 2017 M+ 4 Capacity Invoice.	Participant error	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Captured Carbon (PT_400168) defaulted on a September 2017 M+ 4 Capacity invoice.	Participant error	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Just Energy (Ireland) Limited (PT_400211) defaulted on an Energy Week 39 2017 M+ 4 Invoice.	Participant Error.	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Just Energy (Ireland) Limited (PT_400211) defaulted on a Capacity September 2017 M+ 4 Invoice.	Participant Error.	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on a Capacity December 2017 Ad Hoc Invoice.	Participant Error.	A default letter was issued to the Participant.	Major
31/01/2018	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on an Energy Week 39 2017 M+ 4 Invoice.	Participant Error.	A default letter was issued to the Participant.	Major
12/01/2018	CRM	Timing	Participant	Credit	Panda Power Limited (CP_400161) defaulted on a CCIN issued on 09/01/2018. CCIN was not resolved within the T&SC timeframes. CCIN was closed on 12/01/2018 and a default letter was issued.			Major

Table 16 – Trading and Settlement Code Breaches – Market Participants

SEMO - Pricing and Scheduling

There were no breaches to report in January 2018.

SEMO – Settlements

There were no breaches to report in January 2018.

SEMO - Funds Transfer

There were no breaches to report in January 2018.

Market Operator Monthly Report

SEMO - Credit Management

There were no breaches to report in January 2018.

SEMO – Other

There were no breaches to report in January 2018.

Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Meter Demand/Generation	We have been advised that there was an issue with the Interval file which gets transferred into our Settlement system. Therefore D+4 Interval data will have been estimated from the 22nd-25th December 2017. All generation data which has been submitted for these dates will be zero. Interval demand data will be estimated.	F0076160	2018-01-02	2018-01-11	Settlement
Actual Availabilities	The capacity statement is showing the unit as having zero payment for period 1-0 to 16-0. The unit was fully available during this time so would expect a payment.	F0076261	2018-01-05	2018-01-18	Settlement
Dispatch Instructions	GU_400325 (PBB) Incorrect DG's issued from 21:00 to 22:00 resulting in high uninstructed imbalances. GU_400325 (PBB). Desync instruction issued at 20:58 on 7th Dec. However, dispatch instructions continued after this time for three half hour periods.	F0076270	2018-01-08	2018-01-18	Settlement
LOLP	Loss of Load Probability 2017 values weren't entered into the settlement system at the end of 2016 for 2017 therefore the correct values were not picked up in Initial Capacity Settlement calculations from January 2017 - November 2017. The values that were used in the calculations were 2016 values which were the incorrect values to use. 2016 LOLP table values used as part of 2017 Initial Capacity - Incorrect http://www.sem-o.com/Publications/MarketParameters/Loss%20of%20load%20Probability%202016.xls 2017 LOLP table values to be picked up in M+13 resettlement - Correct http://www.sem-o.com/Publications/MarketParameters/2017%20Loss%20of%20Load%20Probability%20table.xls Further information in relation to the Loss of Load Probability table if required can be found in Appendix M.30 in the T&SC - http://www.sem-o.com/MarketDevelopment/MarketRules/Appendices.docx	F0076354	2018-01-11	2018-01-15	Settlement
Meter Demand	The initial NDLF provided in the PFFS for 24th December and 25th December for PT_500030 (SU_500060) does not match either the initial or the Ad hoc Net demand provided by NIE. The variance is from 00:00 on the 24th through to 00:00 on the 28th.	F0076576	2018-01-23	2018-01-11	Settlement
Actual Availabilities	Due to system issues, Incorrect Actual Availability data was submitted for SONI units for calendar day 12/12/2017. Both the original data submission and the corrected data will be submitted in Excel format with this query. The original submission was sent through the SDX into SEM systems at 11:44 on 13/12/2017. The corrected submission was sent through the SDX into SEM systems at 12:19 on 1/01/2018. Please inform SONI of any further actions required.	F0076580	2018-01-23	2018-01-25	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 January 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
01/01/2018	11:00	09:50	13:00	11:48	09:30	08:18	16:00	14:34	17:00	14:26
02/01/2018	11:00	09:44	13:00	11:42	09:30	08:23	16:00	14:43	17:00	14:35
03/01/2018	11:00	09:51	13:00	11:49	09:30	08:13	16:00	14:23	17:00	14:38
04/01/2018	11:00	10:07	13:00	12:01	09:30	#N/A	16:00	14:28	17:00	14:30
05/01/2018	11:00	10:23	13:00	12:05	09:30	08:23	16:00	14:38	17:00	14:45
06/01/2018	11:00	09:59	13:00	11:53	09:30	08:19	16:00	14:39	17:00	14:30
07/01/2018	11:00	10:06	13:00	11:47	09:30	08:20	16:00	14:32	17:00	14:30
08/01/2018	11:00	10:02	13:00	12:02	09:30	08:14	16:00	14:46	17:00	14:28
09/01/2018	11:00	09:47	13:00	11:50	09:30	08:23	16:00	14:35	17:00	14:24
10/01/2018	11:00	09:58	13:00	12:21	09:30	08:21	16:00	14:33	17:00	14:26
11/01/2018	11:00	10:03	13:00	12:13	09:30	08:15	16:00	14:31	17:00	14:38
12/01/2018	11:00	10:00	13:00	11:51	09:30	08:19	16:00	14:30	17:00	14:30
13/01/2018	11:00	09:43	13:00	11:41	09:30	08:25	16:00	14:30	17:00	14:18
14/01/2018	11:00	09:54	13:00	11:40	09:30	08:12	16:00	14:35	17:00	14:27
15/01/2018	11:00	09:42	13:00	11:45	09:30	08:22	16:00	14:31	17:00	14:26
16/01/2018	11:00	09:42	13:00	11:41	09:30	08:11	16:00	14:24	17:00	14:27
17/01/2018	11:00	09:52	13:00	11:50	09:30	08:13	16:00	14:28	17:00	14:45
18/01/2018	11:00	09:46	13:00	11:51	09:30	08:23	16:00	14:26	17:00	14:46
19/01/2018	11:00	09:43	13:00	11:44	09:30	08:34	16:00	14:30	17:00	15:00
20/01/2018	11:00	09:43	13:00	11:43	09:30	08:21	16:00	14:40	17:00	14:58
21/01/2018	11:00	09:52	13:00	11:47	09:30	08:19	16:00	14:45	17:00	14:32
22/01/2018	11:00	09:50	13:00	11:49	09:30	08:25	16:00	14:40	17:00	14:31
23/01/2018	11:00	09:43	13:00	11:43	09:30	08:24	16:00	14:53	17:00	14:35
24/01/2018	11:00	09:54	13:00	11:50	09:30	08:23	16:00	14:45	17:00	14:12
25/01/2018	11:00	09:56	13:00	11:48	09:30	08:13	16:00	14:32	17:00	14:31
26/01/2018	11:00	09:46	13:00	11:42	09:30	08:14	16:00	15:02	17:00	14:31
27/01/2018	11:00	09:43	13:00	11:40	09:30	08:14	16:00	14:16	17:00	14:32
28/01/2018	11:00	09:44	13:00	11:50	09:30	08:19	16:00	14:34	17:00	14:32
29/01/2018	11:00	09:48	13:00	11:44	09:30	08:31	16:00	14:33	17:00	14:38
30/01/2018	11:00	09:49	13:00	11:49	09:30	08:20	16:00	14:36	17:00	14:17
31/01/2018	11:00	09:47	13:00	11:48	09:30	08:10	16:00	14:37	17:00	14:27

Table 19 – MSP Runs

Market Operator Monthly Report

Settlement Runs

Indicative				Initial			
Trading	Actual	Target	Actual	Trading	Actual	Target	Actual
Day	Date	Time	Time	Day	Date	Time	Time
01/01/2018	02/01/2018	17:00	15:46	01/01/2018	08/01/2018	12:00	09:52
02/01/2018	03/01/2018	17:00	16:13	02/01/2018	09/01/2018	12:00	08:23
03/01/2018	04/01/2018	17:00	15:59	03/01/2018	10/01/2018	12:00	08:38
04/01/2018	05/01/2018	17:00	15:44	04/01/2018	11/01/2018	12:00	08:26
05/01/2018	08/01/2018	17:00	11:40	05/01/2018	12/01/2018	12:00	11:27
06/01/2018	08/01/2018	17:00	12:52	06/01/2018	12/01/2018	12:00	12:00
07/01/2018	08/01/2018	17:00	15:50	07/01/2018	12/01/2018	12:00	12:00
08/01/2018	09/01/2018	17:00	16:29	08/01/2018	15/01/2018	12:00	09:01
09/01/2018	10/01/2018	17:00	15:38	09/01/2018	16/01/2018	12:00	07:50
10/01/2018	11/01/2018	17:00	15:54	10/01/2018	17/01/2018	12:00	09:37
11/01/2018	12/01/2018	17:00	15:45	11/01/2018	18/01/2018	12:00	08:18
12/01/2018	15/01/2018	17:00	11:57	12/01/2018	19/01/2018	12:00	11:32
13/01/2018	15/01/2018	17:00	13:15	13/01/2018	19/01/2018	12:00	12:00
14/01/2018	15/01/2018	17:00	16:36	14/01/2018	19/01/2018	12:00	12:00
15/01/2018	16/01/2018	17:00	15:47	15/01/2018	22/01/2018	12:00	09:04
16/01/2018	17/01/2018	17:00	15:57	16/01/2018	23/01/2018	12:00	07:35
17/01/2018	18/01/2018	17:00	16:02	17/01/2018	24/01/2018	12:00	07:45
18/01/2018	19/01/2018	17:00	16:22	18/01/2018	25/01/2018	12:00	08:50
19/01/2018	22/01/2018	17:00	11:49	19/01/2018	26/01/2018	12:00	11:40
20/01/2018	22/01/2018	17:00	14:55	20/01/2018	26/01/2018	12:00	12:00
21/01/2018	22/01/2018	17:00	15:56	21/01/2018	26/01/2018	12:00	12:00
22/01/2018	28/12/2017	17:00	16:26	22/01/2018	29/01/2018	12:00	08:58
23/01/2018	28/12/2017	17:00	16:07	23/01/2018	30/01/2018	12:00	08:05
24/01/2018	28/12/2017	17:00	16:07	24/01/2018	31/01/2018	12:00	07:57
25/01/2018	28/12/2017	17:00	16:12	25/01/2018	01/02/2018	12:00	07:48
26/01/2018	28/12/2017	17:00	11:32	26/01/2018	02/02/2018	12:00	12:00
27/01/2018	28/12/2017	18:00	13:46	27/01/2018	02/02/2018	12:00	12:00
28/01/2018	29/01/2018	19:00	16:07	28/01/2018	02/02/2018	12:00	12:00
29/01/2018	02/01/2017	20:00	16:19	29/01/2018	05/02/2018	12:00	09:24
30/01/2018	02/01/2017	21:00	15:48	30/01/2018	06/02/2018	12:00	08:37
31/01/2018	02/01/2017	21:00	16:16	31/01/2018	07/02/2018	12:00	07:49

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

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

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

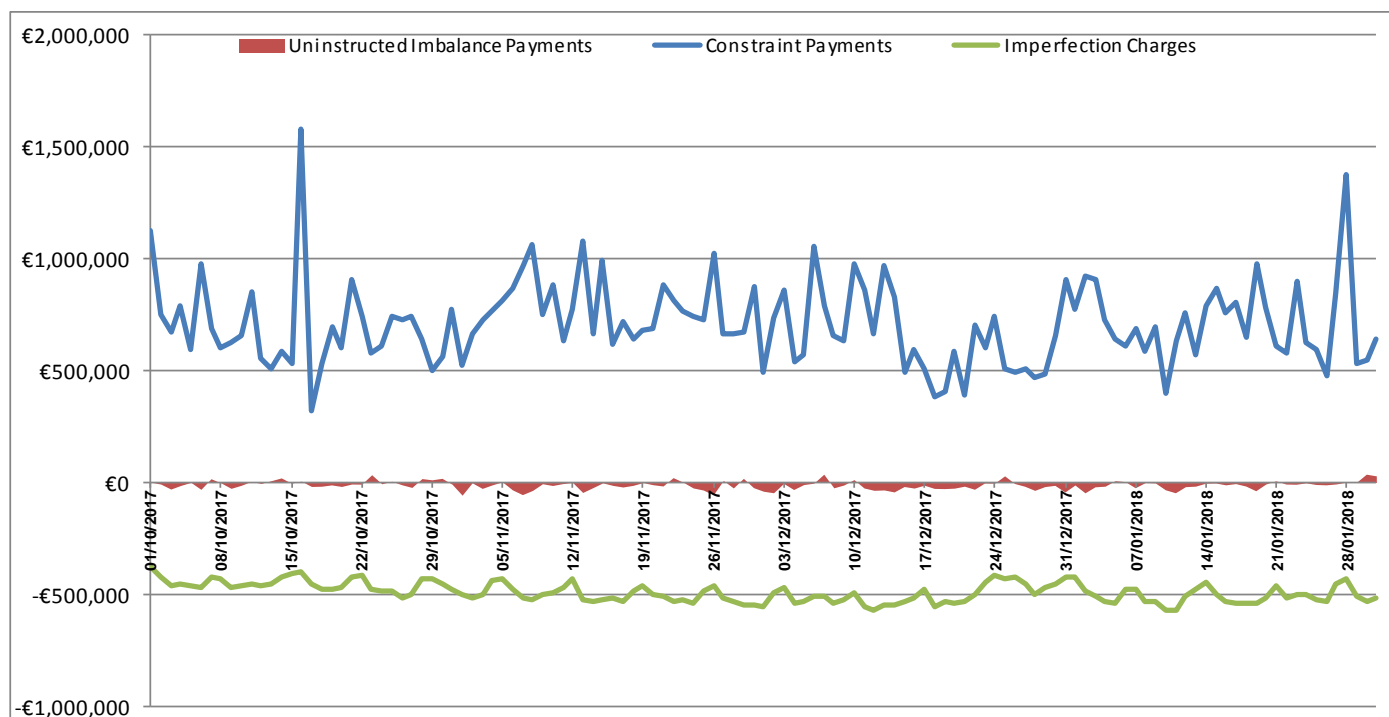


Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

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

Table 22 - Make Whole Payments

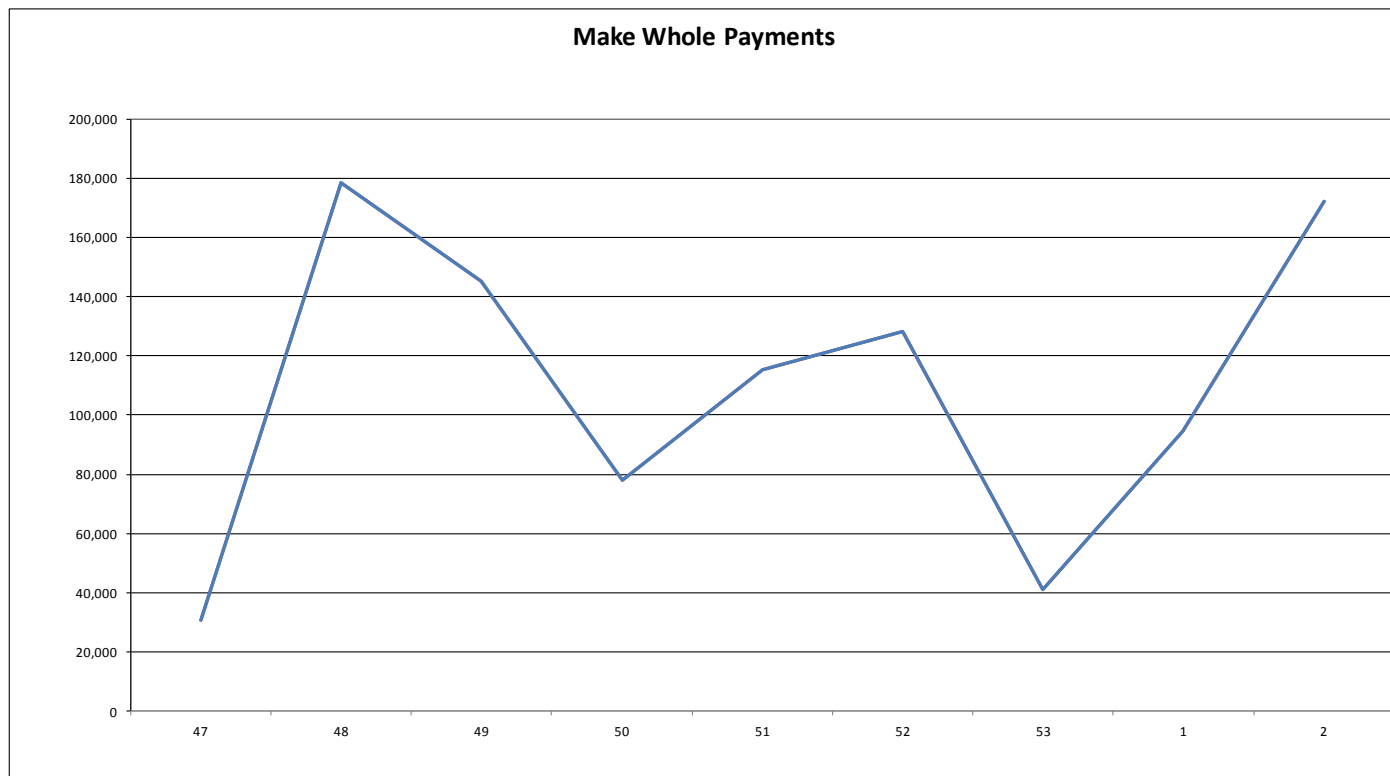


Figure 25 - Make Whole Payments

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

Table 23 - Testing Charges

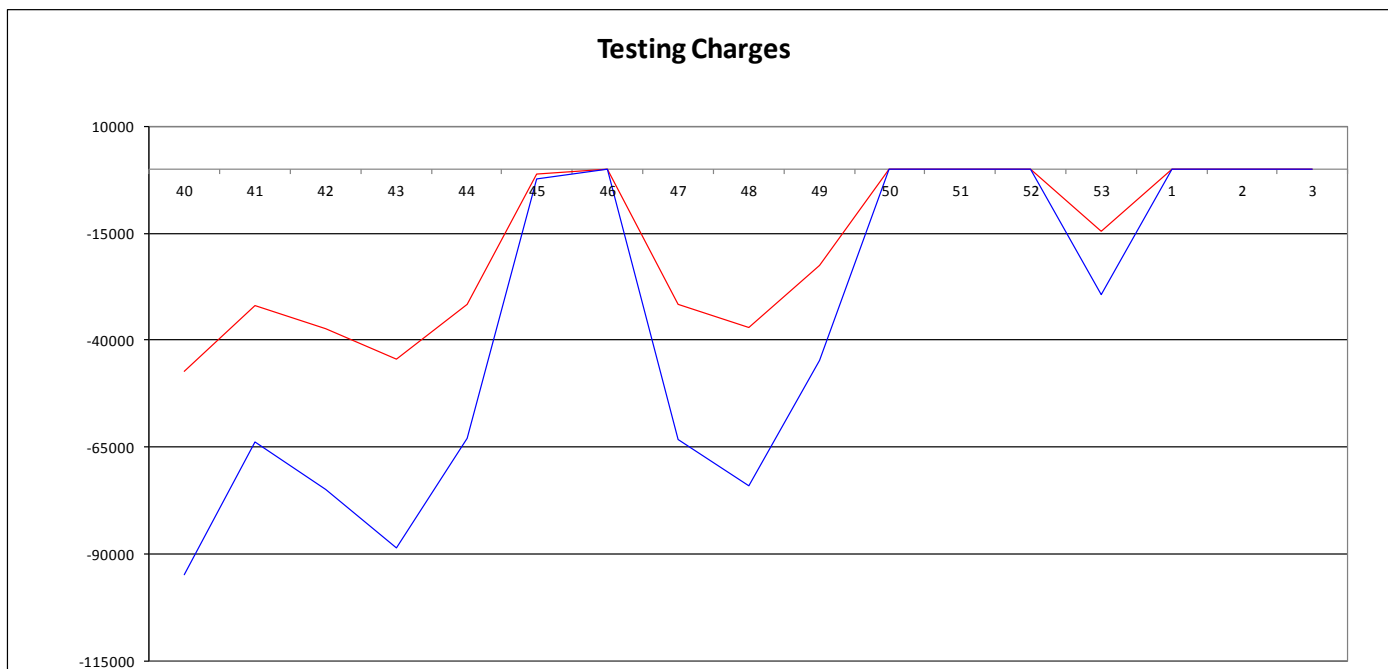


Figure 26 - Testing Charges

Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during January 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_500099	DSU_501460	6			6
PT_400138	DSU_401590	31			31
PT_400090	DSU_401610	22			22
PT_400124	DSU_401880	3			3
PT_400133	DSU_401910	6			6
PT_400116	DSU_401400	2			2
PT_400116	DSU_401870	2			2
PT_400116	DSU_402120	6			6
PT_400138	DSU_402040	31			31
PT_400090	DSU_401270	9			9
PT_400106	DSU_401330	32			32
PT_500105	DSU_501510	1			1
PT_400133	DSU_401530	11			11
PT_400124	DSU_401490	31			31
PT_400024	GU_400120	31			31
PT_400024	GU_400121	31			31
PT_400030	GU_400180	37			37
PT_400030	GU_400181	38			38
PT_400030	GU_400182	38			38
PT_400030	GU_400183	38			38
PT_400030	GU_400200	39			39
PT_400030	GU_400201	40			40
PT_400030	GU_400202	39			39
PT_400030	GU_400203	40			40
PT_400030	GU_400210	31			31
PT_400030	GU_400211	35			35
PT_400030	GU_400220	35			35
PT_400030	GU_400221	35			35
PT_400030	GU_400240	35			35
PT_400030	GU_400250	35			35
PT_400030	GU_400251	35			35
PT_400030	GU_400252	35			35
PT_400030	GU_400260	36			36
PT_400030	GU_400270	42			42
PT_400030	GU_400271	42			42
PT_400030	GU_400272	43			43
PT_400030	GU_400280	35			35
PT_400030	GU_400281	35			35
PT_400030	GU_400290	35			35
PT_400030	GU_400300	37			37
PT_400030	GU_400311	37			37
PT_400030	GU_400323	38			38

Market Operator Monthly Report

PT_400030	GU_400360	36		36
PT_400030	GU_400361	36		36
PT_400030	GU_400362	36		36
PT_400030	GU_400363	36		36
PT_400030	GU_400370	35		35
PT_400030	GU_400850	37		37
PT_400032	GU_400430	28		28
PT_400034	GU_400940	28		28
PT_400034	GU_401090	28		28
PT_400034	GU_401440	28		28
PT_400034	GU_401680	28		28
PT_400035	GU_400480	48		48
PT_400037	GU_400500	31		31
PT_400041	GU_400530	54		54
PT_400044	GU_400540	48		48
PT_400054	GU_400620	28		28
PT_400055	GU_400630	28		28
PT_400064	GU_400750	31		31
PT_400064	GU_400751	31		31
PT_400064	GU_400752	31		31
PT_400064	GU_400753	31		31
PT_400064	GU_400762	31		31
PT_400064	GU_400770	31		31
PT_400064	GU_400771	31		31
PT_400064	GU_400780	31		31
PT_400064	GU_400781	31		31
PT_400075	GU_400930	69		69
PT_400077	GU_400950	28		28
PT_400078	GU_401010	31		31
PT_400078	GU_401011	31		31
PT_400172	GU_401860	31		31
PT_500024	GU_500040	32		32
PT_500024	GU_500041	31		31
PT_500027	GU_500130	86		86
PT_500027	GU_500131	86		86
PT_500027	GU_500140	86		86
PT_500032	GU_501300	25		25
PT_500034	GU_501350	32		32
PT_500040	GU_500281	31		31
PT_500040	GU_500282	31		31
PT_500040	GU_500283	31		31
PT_500040	GU_500284	31		31
PT_500045	GU_500820	31		31
PT_500045	GU_500821	31		31
PT_500045	GU_500822	31		31
PT_500045	GU_500823	31		31
PT_500045	GU_500824	31		31
PT_500045	GU_500825	31		31
PT_500048	GU_500904	43		43
PT_500050	GU_501040	28		28
PT_500050	GU_501050	28		28
PT_500050	GU_501150	28		28
PT_500050	GU_501190	28		28

Market Operator Monthly Report

PT_500053	GU_501130	31		31
PT_500066	GU_501210	28		28
PT_500073	GU_501230	8		8
PT_500089	GU_501360	25		25
PT_400021	I_ROIEWIC	31		31
PT_500083	I_NIMOYLE	55		55
PT_500075	I_NIMOYLE	30		30
PT_500021	I_NIMOYLE	31		31
PT_500024	I_NIMOYLE	31		31
PT_400163	I_ROIEWIC	92		92
PT_500031	I_NIMOYLE	31		31
PT_500069	I_NIMOYLE	93		93
PT_500058	I_NIMOYLE	27		27
PT_400157	I_ROIEWIC	35		35
PT_400096	I_ROIEWIC	93		93
PT_400113	I_ROIEWIC	31		31
PT_500037	I_NIMOYLE	31		31
PT_500081	I_NIMOYLE	31		31
PT_400136	I_ROIEWIC	65		65
PT_400168	I_ROIEWIC	79		79
PT_400115	I_ROIEWIC	31		31
PT_400037	I_ROIEWIC	17		17
PT_500070	I_NIMOYLE	63		63
PT_400108	I_ROIEWIC	63		63
PT_400171	I_ROIEWIC	22		22
PT_400170	I_ROIEWIC	25		25
PT_500088	I_NIMOYLE	17		17
PT_400030	I_ROIEWIC	31		31
PT_500092	I_NIMOYLE	3		3
PT_400099	I_ROIEWIC	40		40
PT_400116	DSU_402120		25	25
PT_400116	DSU_401400		29	29
PT_400144	DSU_401660		31	31
PT_400090	DSU_401620		31	31
PT_400090	DSU_401800		31	31
PT_400090	DSU_401850		31	31
PT_500078	DSU_501330		31	31
PT_500064	DSU_501200		31	31
PT_400090	DSU_401270		22	22
PT_500105	DSU_501510		30	30
PT_500099	DSU_501460		26	26
PT_400090	DSU_401610		9	9
PT_400111	DSU_401390		31	31
PT_500067	DSU_501380		31	31
PT_400116	DSU_402100		31	31
PT_400133	DSU_401910		26	26
PT_500098	DSU_501450		31	31
PT_400116	DSU_401870		29	29
PT_400133	DSU_401530		20	20
PT_400124	DSU_401880		29	29
PT_500108	DSU_501560		31	31
PT_400116	DSU_402090		31	31
PT_400021	GU_400021		31	31

Market Operator Monthly Report

PT_400021	GU_400050			31	31
PT_400021	GU_400060			31	31
PT_400021	GU_400070			31	31
PT_400021	GU_400080			31	31
PT_400021	GU_400591			31	31
PT_400021	GU_400600			31	31
PT_400021	GU_400910			31	31
PT_400021	GU_400920			31	31
PT_400021	GU_401080			31	31
PT_400021	GU_401380			31	31
PT_400021	GU_401600			31	31
PT_400021	GU_401640			31	31
PT_400025	GU_400130			31	31
PT_400032	GU_400430			3	3
PT_400034	GU_400940			3	3
PT_400034	GU_401090			3	3
PT_400034	GU_401440			3	3
PT_400034	GU_401680			3	3
PT_400038	GU_400550			31	31
PT_400050	GU_400650			31	31
PT_400050	GU_400660			31	31
PT_400050	GU_401000			31	31
PT_400050	GU_401060			31	31
PT_400050	GU_401150			31	31
PT_400050	GU_401240			31	31
PT_400050	GU_401250			31	31
PT_400050	GU_401280			31	31
PT_400050	GU_401290			31	31
PT_400050	GU_401360			31	31
PT_400050	GU_401790			31	31
PT_400054	GU_400620			3	3
PT_400055	GU_400630			3	3
PT_400062	GU_400730			31	31
PT_400062	GU_400731			31	31
PT_400062	GU_400840			31	31
PT_400066	GU_401540			31	31
PT_400066	GU_401820			31	31
PT_400077	GU_400950			3	3
PT_400082	GU_401100			31	31
PT_400087	GU_401230			31	31
PT_400148	GU_401690			31	31
PT_400150	GU_401700			31	31
PT_400151	GU_401770			31	31
PT_400151	GU_401780			31	31
PT_400152	GU_401710			31	31
PT_400152	GU_401720			31	31
PT_400152	GU_401730			31	31
PT_400152	GU_401740			31	31
PT_400152	GU_401750			31	31
PT_400152	GU_401760			31	31
PT_400172	GU_401860			1	1
PT_500021	GU_500010			31	31
PT_500021	GU_500740			31	31

Market Operator Monthly Report

PT_500021	GU_501160			31	31
PT_500032	GU_500211			31	31
PT_500032	GU_501120			31	31
PT_500032	GU_501280			31	31
PT_500032	GU_501290			31	31
PT_500032	GU_501300			5	5
PT_500039	GU_500270			31	31
PT_500040	GU_500281			1	1
PT_500040	GU_500282			1	1
PT_500040	GU_500283			1	1
PT_500040	GU_500284			1	1
PT_500044	GU_500720			31	31
PT_500047	GU_500790			31	31
PT_500048	GU_500904			1	1
PT_500050	GU_501040			3	3
PT_500050	GU_501050			3	3
PT_500050	GU_501150			3	3
PT_500050	GU_501190			3	3
PT_500061	GU_501170			31	31
PT_500062	GU_501180			31	31
PT_500066	GU_501210			3	3
PT_500073	GU_501230			23	23
PT_500074	GU_501250			31	31
PT_500089	GU_501360			7	7
	Total	4315	0	2307	6622
	Percentage	65.16%	0.00%	34.84%	100.00%

Table 24 – Commercial Offer Data Used

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
Jul-16	ROI	€53,840,170.28	€17,104,842.75	€415,112.37	€247,294.27	€5,027.94	€81,626.06	€27,799.39	€410.18	€208,424.28	€0.00	€0.00	€71,930,707.52
	NI	€20,282,958.20	€4,658,773.71	€111,871.11	€72,753.11	€1,297.25	€52,180.96	€20,969.56	€283.82	€27,450.94	€0.00	€0.00	€25,228,538.66
Aug-16	ROI	€47,925,137.80	€17,191,335.52	€205,102.11	€45,376.26	€1,900.83	€46,132.09	€12,064.34	€323.00	€0.00	€0.00	€0.00	€65,427,371.95
	NI	€13,904,887.07	€3,784,287.20	€26,983.41	€6,959.89	€294.55	€2,874.89	€2,261.38	€18.45	€0.00	€0.00	€0.00	€17,728,566.84
Sep-16	ROI	€57,725,046.88	€17,191,335.52	€316,785.33	€82,962.59	€4,207.29	€47,913.59	€8,957.12	€354.44	€0.00	€295.52	€0.00	€75,377,858.28
	NI	€15,918,157.70	€3,784,287.20	€32,790.23	€7,927.66	€416.78	€4,847.59	€1,185.01	€33.38	€0.00	€2,875.40	€0.00	€19,752,520.95
Oct-16	ROI	€69,972,953.07	€20,863,182.68	€338,586.57	€95,502.31	€4,333.45	€87,892.25	€14,736.13	€359.59	€0.00	€0.00	€0.00	€91,377,546.05
	NI	€25,586,214.40	€4,376,394.83	€77,787.35	€18,365.43	€977.30	€11,874.98	€1,647.25	€85.65	€0.00	€0.00	€0.00	€30,073,347.19
Nov-16	ROI	€83,487,123.38	€26,395,539.72	€257,668.44	€80,165.18	€3,418.32	€94,355.82	€39,305.46	€618.26	€301,690.28	€0.00	€72.04	€110,659,956.90
	NI	€31,306,401.54	€6,468,679.78	€173,737.66	€74,786.08	€2,148.38	€43,017.39	€20,271.13	€422.26	€832.79	€0.00	€0.00	€38,090,297.01
Dec-16	ROI	€95,266,581.65	€27,572,460.28	€97,017.33	€114,736.82	€6,025.28	€97,017.33	€32,733.66	€1,076.70	€496,715.14	€0.00	€1,512.38	€124,036,341.54
	NI	€35,841,749.90	€6,989,191.13	€197,537.73	€49,301.94	€2,219.49	€25,889.47	€12,309.63	€304.11	€87.68	€0.00	€0.00	€43,118,591.08
Jan-17	ROI	€75,626,838.95	€26,766,502.24	€158,454.05	€90,014.92	€2,220.87	€57,510.67	€43,928.85	€718.84	€0.00	€0.00	€0.00	€102,746,189.39
	NI	€25,518,177.37	€7,218,837.74	€105,159.01	€37,420.47	€1,201.46	€13,624.71	€8,406.28	€166.14	€0.00	€0.00	€0.00	€32,902,993.18
Feb-17	ROI	€72,035,479.90	€27,979,553.27	€155,130.29	€146,308.11	€822.54	€52,898.05	€23,287.43	€672.03	€0.00	€0.00	€0.00	€100,394,151.62
	NI	€27,677,996.42	€8,012,556.21	€84,963.22	€26,404.97	€479.76	€26,710.73	€10,373.95	€304.45	€0.00	€0.00	€0.00	€35,839,789.71
Mar-17	ROI	€74,265,958.01	€25,788,084.66	€532,016.14	€116,104.70	€3,141.82	€39,271.10	€13,708.08	€638.20	€0.00	€0.00	€0.00	€100,758,922.71
	NI	€27,816,469.38	€8,149,368.84	€76,024.05	€12,908.20	€406.88	€32,923.50	€14,410.91	€582.61	€0.00	€0.00	€0.00	€36,103,094.37
Apr-17	ROI	€56,718,380.85	€24,463,279.10	€537,285.75	€147,053.40	€3,530.38	€45,104.86	€18,331.73	€596.32	€0.00	€0.00	€0.00	€81,933,562.39
	NI	€18,526,297.40	€7,555,445.88	€125,968.13	€23,710.00	€645.79	€59,866.13	€25,832.73	€810.81	€0.00	€0.00	€0.00	€26,318,576.87
May-17	ROI	€45,161,376.39	€18,086,733.29	€488,856.77	€139,195.42	€2,589.27	€62,916.83	€17,794.83	€699.70	€0.00	€0.00	€0.00	€63,960,162.50
	NI	€19,510,303.26	€6,964,363.87	€107,751.82	€32,525.65	€619.02	€88,078.61	€33,838.58	€1,182.28	€0.00	€0.00	€0.00	€26,738,663.09
Jun-17	ROI	€52,758,496.23	€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	€71,274,382.90
	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	€54,277,998.32	€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	€72,788,839.45
	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	€66,556,846.79	€30,184,516.90	€264,692.47	€140,421.82	€600.74	€56,245.08	€18,749.58	€346.74	€37.23	€16,333.45	€0.00	€97,238,790.80
	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
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	€346.74	€37.23	€16,333.45	€0.00	€97,238,790.80
	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

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

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
Dec-17	€ -308.39	€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>	

Table 29 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
01/01/2017	31/12/2016	EP1	€581.16	€238.04	MIP
03/01/2017	04/01/2017	EA2	€1,000	€250.11	MIP
12/01/2017	08/01/2017	EP2	€-100	€-100	MIP
19/01/2017	18/01/2017	EA2	€1,000	€187.49	MIP
23/01/2017	22/01/2017	EP1	€546.36	€111.81	MIP
26/01/2017	27/01/2017	EA2	€1000	€225.25	MIP
26/01/2017	22/01/2017	EP2	€546.36	€101.73	MIP
28/01/2017	27/01/2017	EP1	€544.22	€544.22	MIP
30/01/2017	31/01/2017	EA2	€1000	€236.42	MIP
30/01/2017	29/01/2017	EP1	€553.05	€553.05	MIP
31/01/2017	31/01/2017	WD1	€554.03	€554.03	MIP
31/01/2017	27/01/2017	EP2	€544.22	€544.22	MIP
01/02/2017	28/01/2017	EP2	€553.13	€553.38	MIP
04/02/2017	04/02/2017	WD1	€582.64	€553.37	MIP
04/02/2017	03/02/2017	EP1	€533.92	€547.30	MIP
05/02/2017	04/02/2017	EP1	€564.61	€553.37	MIP

Market Operator Monthly Report

06/02/2017	07/02/2017	EA2	€1,000	€122.43	MIP
07/02/2017	07/02/2017	WD1	€552.98	€205.26	MIP
08/02/2017	07/02/2017	EP1	€552.98	€552.98	MIP
08/02/2017	04/02/2017	EP2	€553.37	€553.37	MIP
11/02/2017	07/02/2017	EP2	€552.98	€552.98	MIP
13/02/2017	14/02/2017	EA2	€1,000	€264.26	MIP
17/02/2017	16/02/2017	EP1	€542.10	€542.10	MIP
20/02/2017	20/02/2017	WD1	€1,000	€239.91	MIP
19/02/2017	20/02/2017	EA2	€1,000	€103.71	MIP
25/02/2017	25/02/2017	WD1	€543.19	€219.91	MIP
28/02/2017	27/02/2017	EP1	€596.85	€328.07	MIP
12/03/2017	08/03/2017	EP2	€1,000	€183.28	MIP
08/03/2017	09/03/2017	EA2	€1,000	€203.40	MIP
20/03/2017	20/03/2017	WD1	€1,000	€146.90	MIP
20/03/2017	19/03/2017	EP1	€531.42	€420.26	MIP
21/03/2017	21/03/2017	WD1	€559.20	€193.39	MIP
22/03/2017	18/03/2017	EP2	€-100	€69.40	MIP
25/03/2017	24/03/2017	EP1	€531.39	€221.11	MIP
28/03/2017	24/03/2017	EP2	€531.39	€227.68	MIP
07/04/2017	03/04/2017	EP2	€1,000	€112.04	MIP
04/04/2017	04/04/2017	WD1	€534.37	€94.60	MIP
13/04/2017	06/04/2017	EP2	€534.89	€118.83	MIP
18/04/2017	17/04/2017	EP1	€1,000	€72.21	MIP
29/04/2017	28/04/2017	EP1	€1,000	€97.01	MIP

Market Operator Monthly Report

30/04/2017	26/04/2017	EP2	€1,000	€74.49	MIP
05/05/2017	05/05/2017	WD1	€-100	€46.01	MIP
14/05/2017	14/05/2017	WD1	€-100	€538.89	MIP
14/05/2017	15/05/2017	EA1	€-79.01	€58.58	MIP
01/06/2017	02/06/2017	EA2	€1,000	€84.36	MIP
11/06/2017	11/06/2017	WD1	€-100	€87.76	MIP
28/06/2017	29/06/2017	EA2	€-100	€40.73	MIP
18/07/2017	19/07/2017	EA1	€911.60	€74.59	MIP
31/07/2017	01/08/2017	EA2	€1,000	€217.58	MIP
01/08/2017	01/08/2017	WD1	€1,000	€182.44	MIP
16/08/2017	17/08/2017	EA2	€1,000	€1000	MIP
22/08/2017	18/08/2017	EP2	€757.68	€89.98	MIP
31/08/2017	30/08/2017	EP1	€1,000	€71.67	MIP
05/09/2017	04/09/2017	EP1	€1,000	€267.27	MIP
19/09/2017	18/09/2017	EP1	€1,000	€1000	MIP
21/09/2017	20/09/2017	EP1	€1,000	€206.19	MIP
22/09/2017	18/09/2017	EP2	€1,000	€285.75	MIP
25/09/2017	26/09/2017	EA1	€800	€283.57	MIP
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

Market Operator Monthly Report

23/10/2017	24/10/2017	EA2	€1,000	€278.95	MIP
24/10/2017	20/10/2017	EP2	€1,000	€280.03	MIP
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
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

Table 30 - MIP Vs LR Peak Price Comparison