

Public

P305 POST IMPLEMENTATION REVIEW

Webinar

16 March 2017
Emma Tribe

ELEXON

Who we are

Presenter

- **Emma Tribe**
- **Market Analyst**



Answering questions

- **Roger Harris**

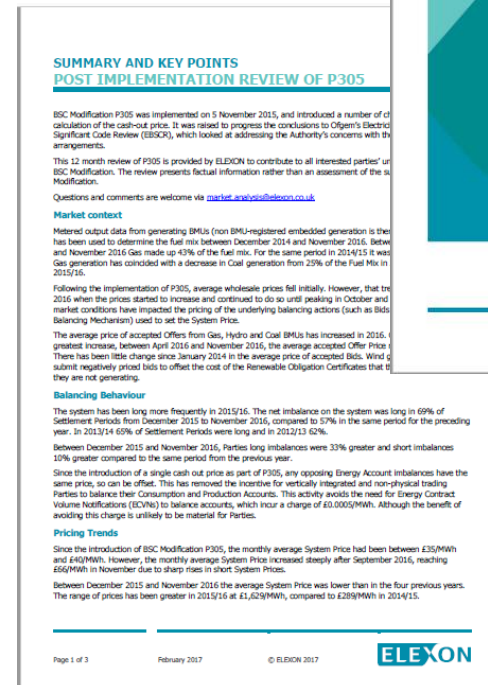


- **David Thomas**



What I'm going to cover

- Analysis and information on System Prices
- What the review covers
- Pricing changes as a result of BSC Modification P305
- Some of our analysis from the report
- Answer questions at end, or get back to you over email and Q&A document



Previous reviews and analysis

- Continuous analysis in System Price Analysis Report (link at end of presentation)
- A six month post implementation review was conducted,
- Webinar with introduction to P305 and key analysis from the six month review

ISG191-SPAR REPORTING ON JANUARY 2017
ISSUE 16 - PUBLISHED 21 FEBRUARY 2017

SYSTEM PRICE ANALYSIS REPORT

The System Price Analysis Report (SPAR) provides a monthly update on price calculations. It is published by the ELEXON Market Analysis Team to the Imbalance Settlement Group (ISG) and on the ELEXON Website ahead of the monthly ISG meeting.

This report provides data and analysis specific to System Prices and the Balancing Mechanism¹. It demonstrates out-turn prices and the data used to derive the prices. The data is a combination of EL and SF Settlement Runs.

In addition to the SPAR, a post-implementation review will be published for changes under Modification P305 'Electricity Balancing Significant Code Review Developments'.

A one year post-P305 review has also been published this month looking back to the start of P305, you can download the review from the ELEXON website.

1 SYSTEM PRICES AND LENGTH

This report covers the month of January. Where available, data uses the latest Settlement Run (in most cases '1' or '3P').

In this report we distinguish between a 'long' and a 'short' market when analysing System Prices because the price calculation differs between two scenarios. When the market is long, System Prices will be based predominantly on the System Operator's 'sell' actions such as Accepted Bids. When the market is short, System Prices will instead be based predominantly on the System Operator's 'buy' actions. Table 1.1 gives a summary of System Prices for January 2017.

Graph 1.2 shows the distribution of System Prices across Settlement Periods in the last month when the market was long and short. System Prices were between £20/MWh and £20/MWh in 63% of Settlement Periods (in both directions).

When the System was long, 92% of prices were between £20/MWh and £20/MWh. When the System was short, 57% of prices were between £20/MWh and £20/MWh with 22% of prices over £20/MWh.

Month	System Price (Long)				
	Min	Max	Median	Mean	Std Dev
January 2017	0.00	46.97	40.20	39.99	1.56

Month	System Price (Short)				
	Min	Max	Median	Mean	Std Dev
January 2017	44.85	202.55	72.39	84.32	33.80

1.1 System Price summary by month (£/MWh)

1.2 Frequency of System Prices over the last month

Count of Settlement Periods

System Price (£/MWh)

System Price (£/MWh)

EL and SF Settlement

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P305 POST IMPLEMENTATION REVIEW
POST IMPLEMENTATION REVIEW OF P305

EXEC SUMMARY AND CONTENTS

This document summarises data and analysis provided by ELEXON to contribute to BSC Parties' understanding of BSC Modification P305 'Electricity Balancing Significant Code Review Developments'.

Using BSC data and considering the six month period after P305 was implemented, the following can be observed:

- Overall, the market was more long than short since the implementation of P305 – the system was net long in 62% of Settlement Periods since the introduction of Modification P305 (compared to 57% of Settlement Periods in the same time period of the last year).

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BSC Modification P305
Post-implementation review

20 July 2016
BSC Operations

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What the review covers

- We don't conclude whether P305 has been a success or not
- Present analysis on Balancing and Settlement data up to 30 November 2016
- Sections:
 - Background including Market Context Data
 - Balancing Behaviour
 - System Prices
 - Trading Charges
 - Parameter Analysis



Background to BSC Modification P305

- BSC Modification P305 was raised to progress the conclusions to Ofgem's Electricity Balancing Significant Code Review (EBSCR), and implemented on 5 November 2015.
- Reform to improve efficiency in balancing and security of supply
- EBSCR Final Policy Decision:
 - a) Make cash-out price 'marginal'
 - b) Include a cost for disconnections
 - c) Improve the way reserve costs are priced
 - d) Move to a single cash-out price

The image shows the cover page of a document titled "Electricity Balancing Significant Code Review - Final Policy Decision" from Ofgem. The Ofgem logo is at the top left with the tagline "Making a positive difference for energy consumers". The title is centered. Below the title, it says "Final decision" in orange. A table provides publication and contact information. An overview section follows, explaining the document's purpose and the reforms it proposes.

Publication date: 15 May 2014	Contact: Andreas Flamm / Dominic Scott
	Team: Wholesale Markets, Electricity Policy
	Tel: 020 7901 7000
	Email: EBSCR@ofgem.gov.uk

Overview:
Cash-out prices, which parties face on their imbalances (the difference between what they generate or buy and what they sell or consume), are a key incentive on market participants to balance. Current balancing arrangements are not working as well as they could, undermining efficiency in balancing and security of supply.

This document is the culmination of the Electricity Balancing Significant Code Review (EBSCR), launched to develop solutions to the issues. It presents our reforms for improving efficiency in balancing and security of supply.

This publication concludes this SCR. We have published accompanying documents, including the SCR Directions, through which we direct National Grid Electricity Transmission to raise the required Balancing and Settlement Code (BSC) modification proposals to give effect to these reforms. This initiates the normal BSC governance process, which will involve a further stage of industry led work and consultation before a final BSC modification report is sent to us for decision. BSC parties will be able to suggest improvements to the current proposals in a manner consistent with the EBSCR policy intent. Ofgem strongly urges industry and the BSC Panel to expedite the modification process in order to allow for timely implementation.

Ofgem/Ofgem E-Serve 9 Millbank, London SW1P 3GE www.ofgem.gov.uk

Two step changes in BSC Modification P305

- Changes introduced make cash-out prices 'more marginal':
 1. A reduction in the **Price Average Reference (PAR)** value to 50MWh and the Replacement PAR (RPAR) value to 1MWh upon implementation
 2. A price for **Short Term Operating Reserve (STOR)** actions using a **Reserve Scarcity Price (RSP)** determined by a 'static' Loss of Load Probability (LoLP) function
 3. A price for **Demand Control** actions at **Value of Lost Load** (currently £3,000/MWh)
 4. A **single imbalance price** for each half-hour
- Further changes from **1 November 2018**:
 1. A further reduction to the PAR value to 1MWh on 1 November 2018.
 2. Increase the VoLL to £6,000/MWh
 3. A 'dynamic' LoLP function

Terminology and acronyms

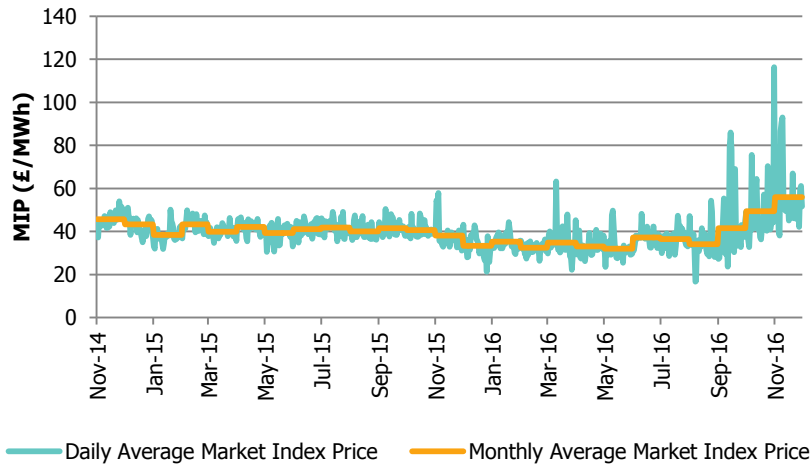
- **System Price, Imbalance Price** and **Cash-out Price** are the **same thing**
- **Long** and **short**, when talking about the market and a Party
- **De-Rated Margin** a measure of available excess capacity.
- **RSP** – Reserve Scarcity Price
- **STOR** – Short Term Operating Reserve
- **BMU** – Balancing Mechanism Unit
- **LoLP** – Loss of Load Probability
- **VoLL** – Value of Lost Load



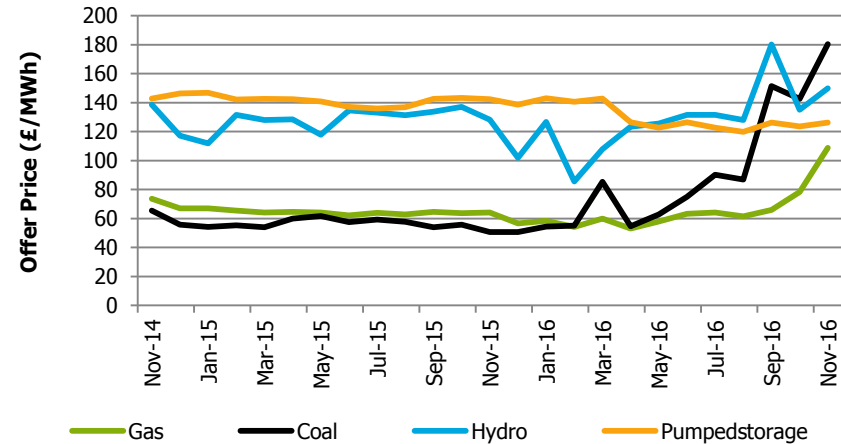
Key analysis from the review

Trends in market prices

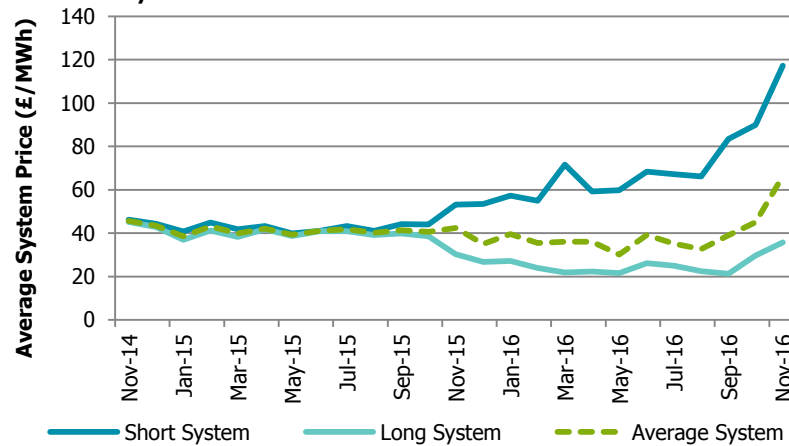
Market Index Price (proxy for wholesale prices)



Average Offer Price



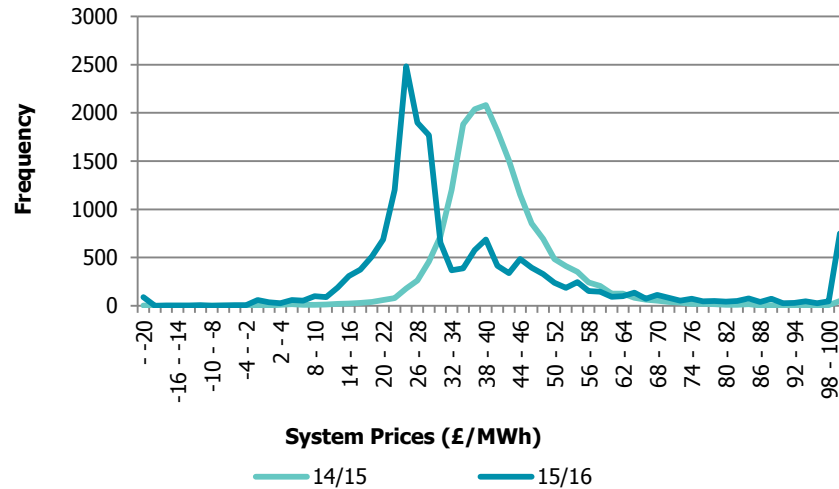
System Prices



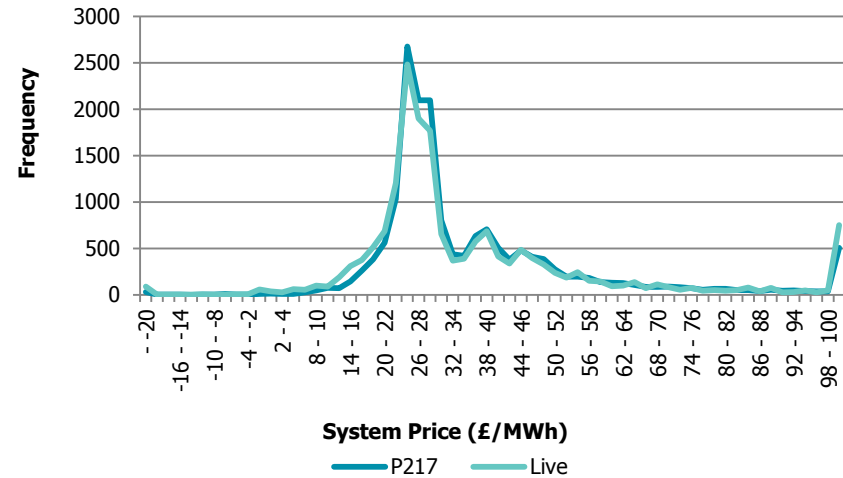
- Market, Offer and System Prices increased in Autumn
- Spread of prices in Long vs Short System post P305
- Lower average System Price

System prices

System Prices - 2014/15 vs 2015/16

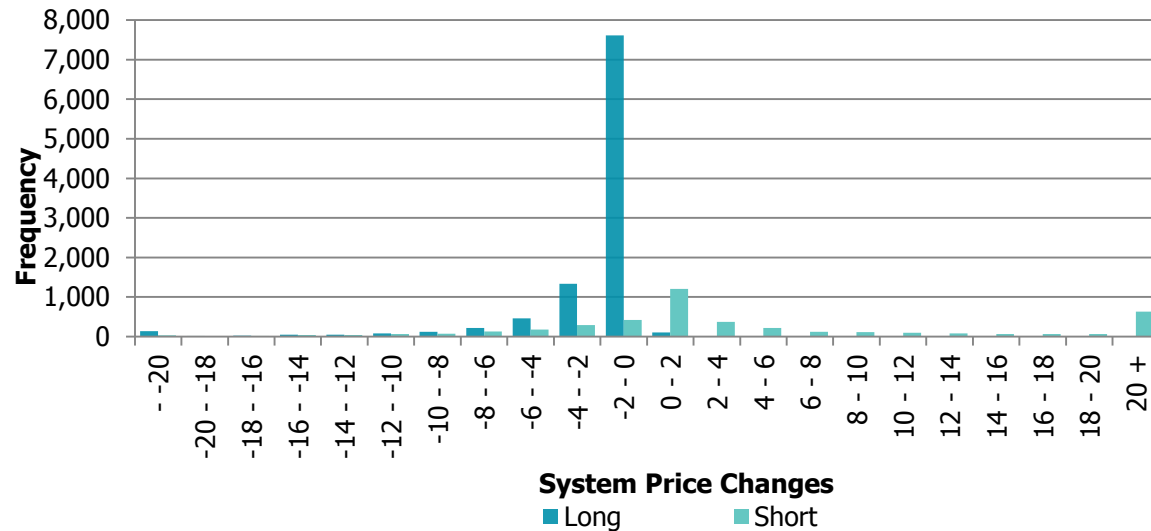


System Prices – P217 vs Live



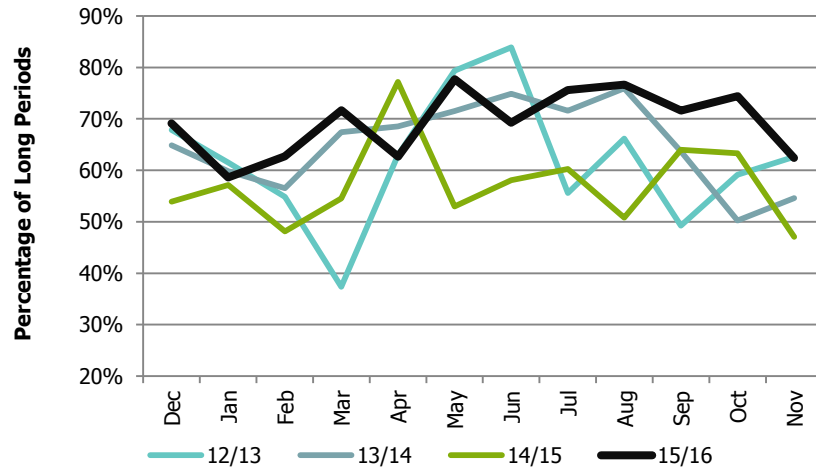
- £14/MWh difference in 2014/15 and 2015/16 distributions
- Small differences between P217 and Live price
- Differences over £20/MWh when market short

Differences between P217 price and live price

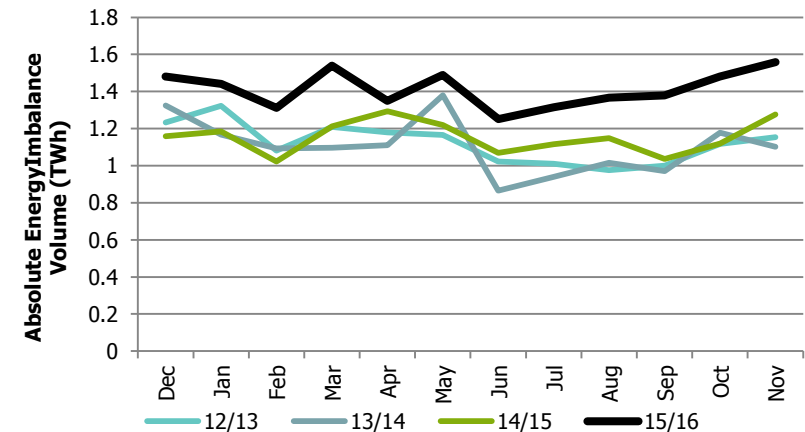


Balancing behaviour

Market Length

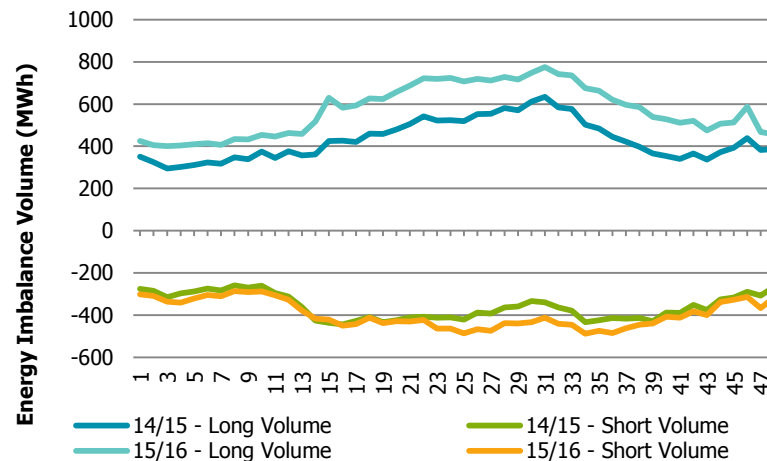


Absolute sum of Parties' Energy Imbalance Volumes



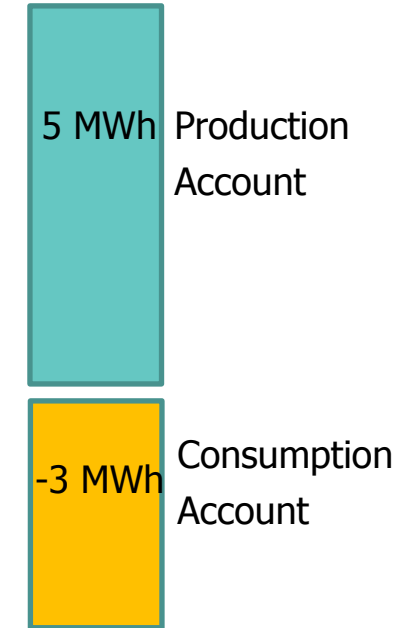
- More long Settlement Periods in 2015/16
- Greater Energy Imbalance Volumes for Parties

Average of Parties' Energy Imbalance Volumes by Settlement Period

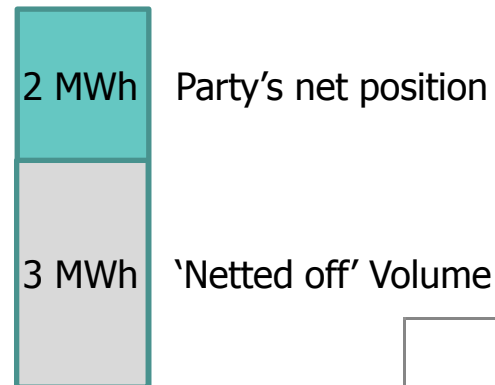


Production and Consumption Accounts

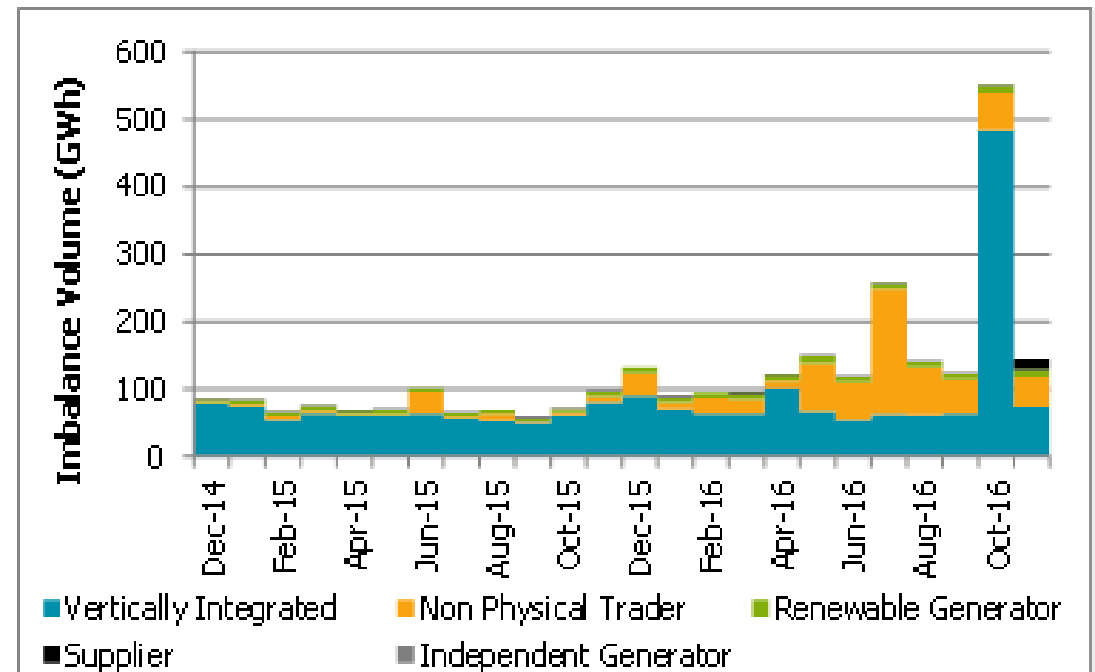
Energy Imbalance Volumes



Net Energy Imbalance Volumes for a Party

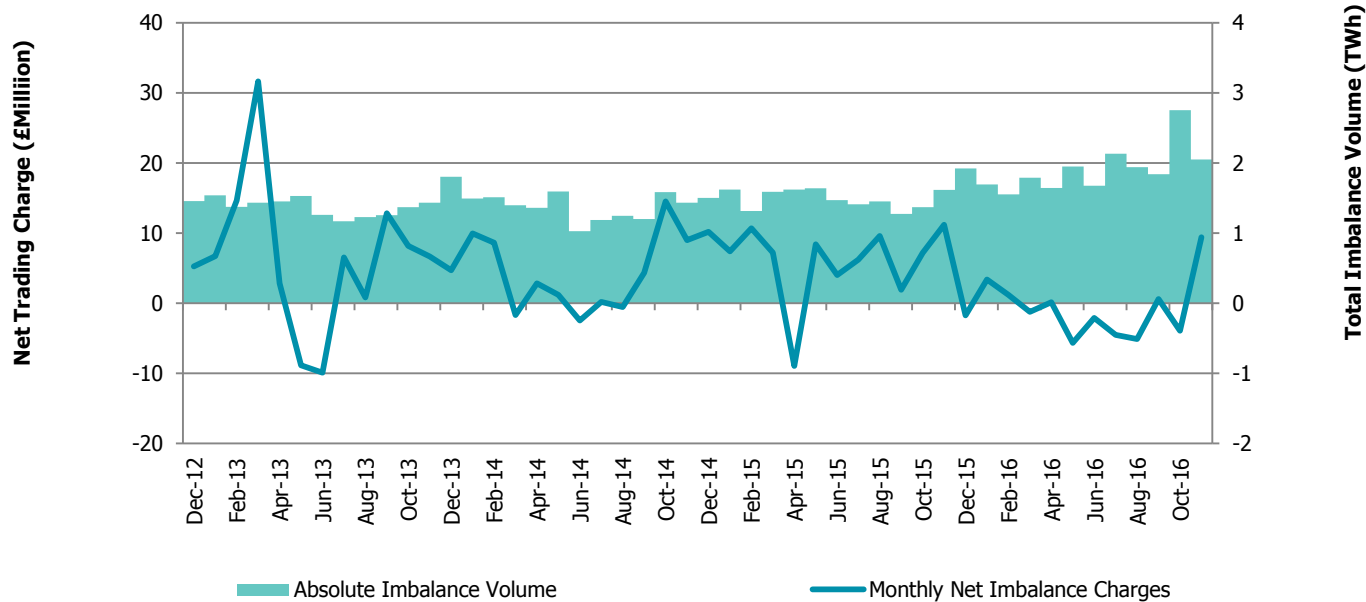


- No need to balance Production and Consumption Accounts separately
- Still need to balance the net position



Trading charges

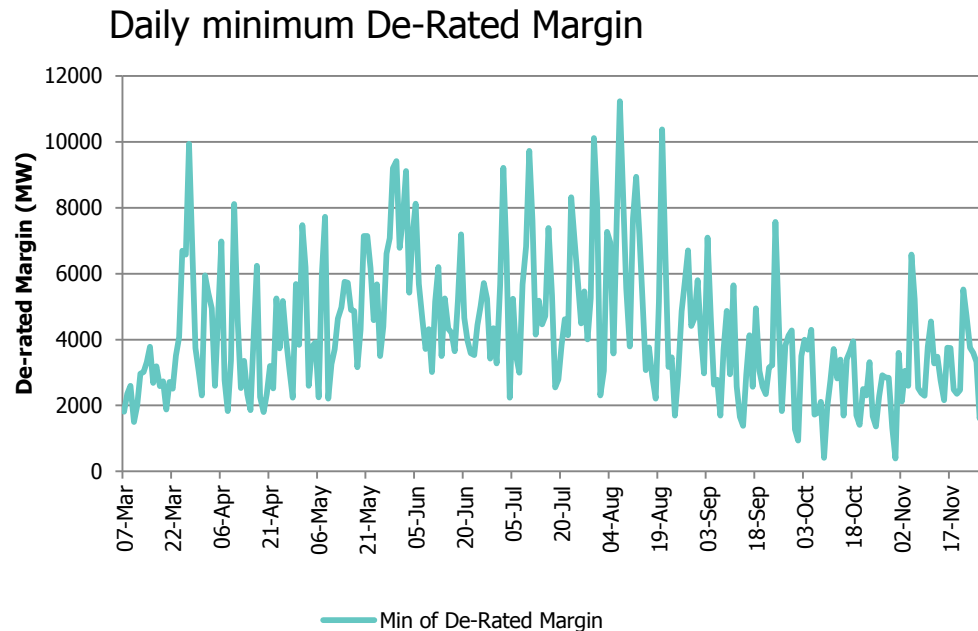
Net Energy Imbalance Charge and total absolute Account Energy Imbalance Volume by month



- Net credit Energy Imbalance Charges to Parties in 2015/16;
- Highest Account Energy Imbalance Volumes in 2015/16

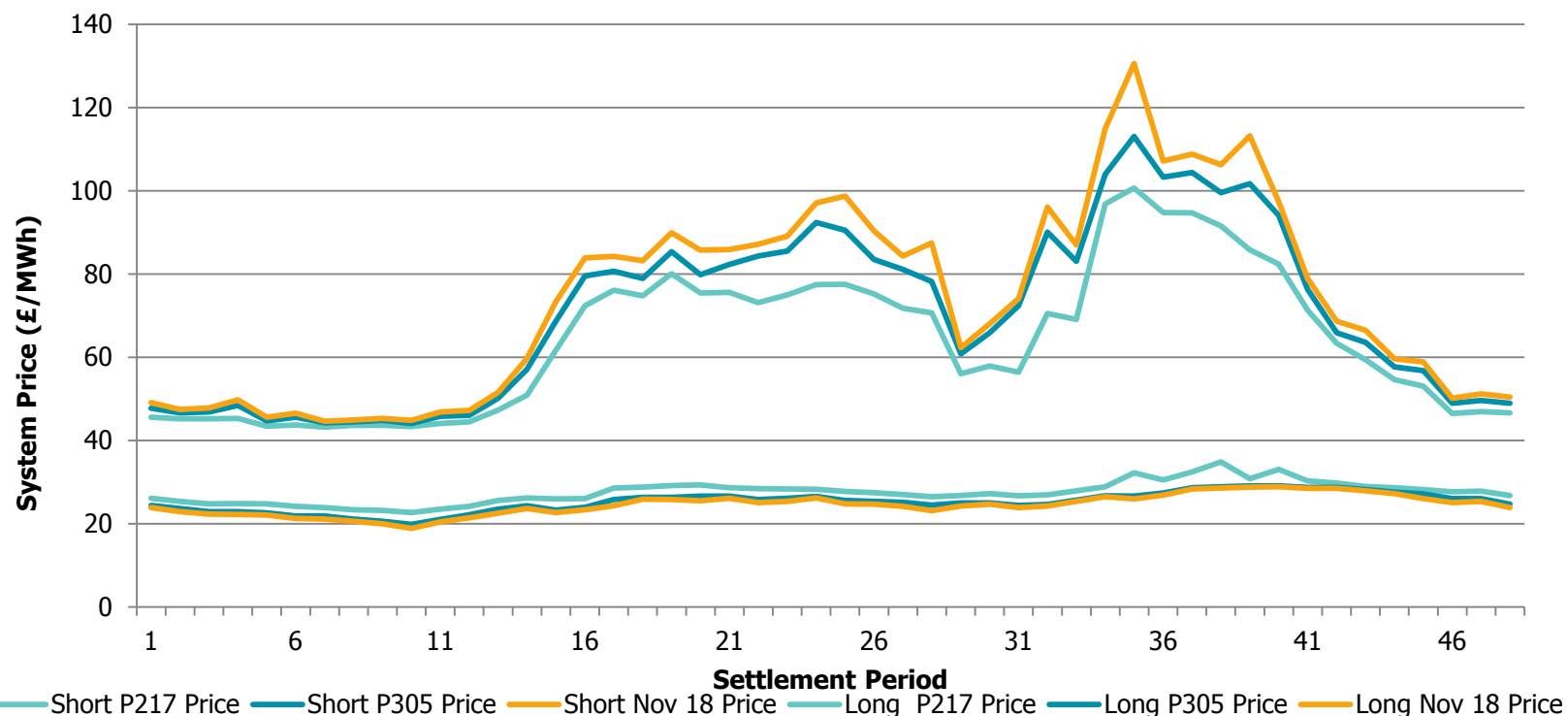
Reserve Scarcity Price (RSP) repriced STOR actions

- 130 STOR actions repriced in September and October



- Two Settlement Periods where RSP repriced actions set the System Price; under November 2018 scenario this would increase to four
- Parties can change behaviour in anticipation of a high RSP

Looking forward to November 2018



- Largest difference between live and November 2018 Price during morning and evening peaks when market short
- 500MWh to 50MWh has greater impact on average than 50MWh to 1MWh
- Cannot predict how market conditions will change

PAR 1 Prices available on Portal: <https://www.elxonportal.co.uk/article/view/8668?cachebust=eayf00rf8l>

Summary

- P305 raised to process EBSCR conclusions
- Market prices have changed since the implementation of P305
- Between December 2015 and November 2016:
 - System Prices were on average lower
 - More long Settlement Periods
 - Greater Energy Imbalances for Parties
 - Implications of a Single Imbalance Price on dual accounts
 - Energy Imbalance Charge - net Credit
 - RSP only used in September and October
 - Recalculated prices with the November 2018 scenario

Any questions?

Questions or comments?

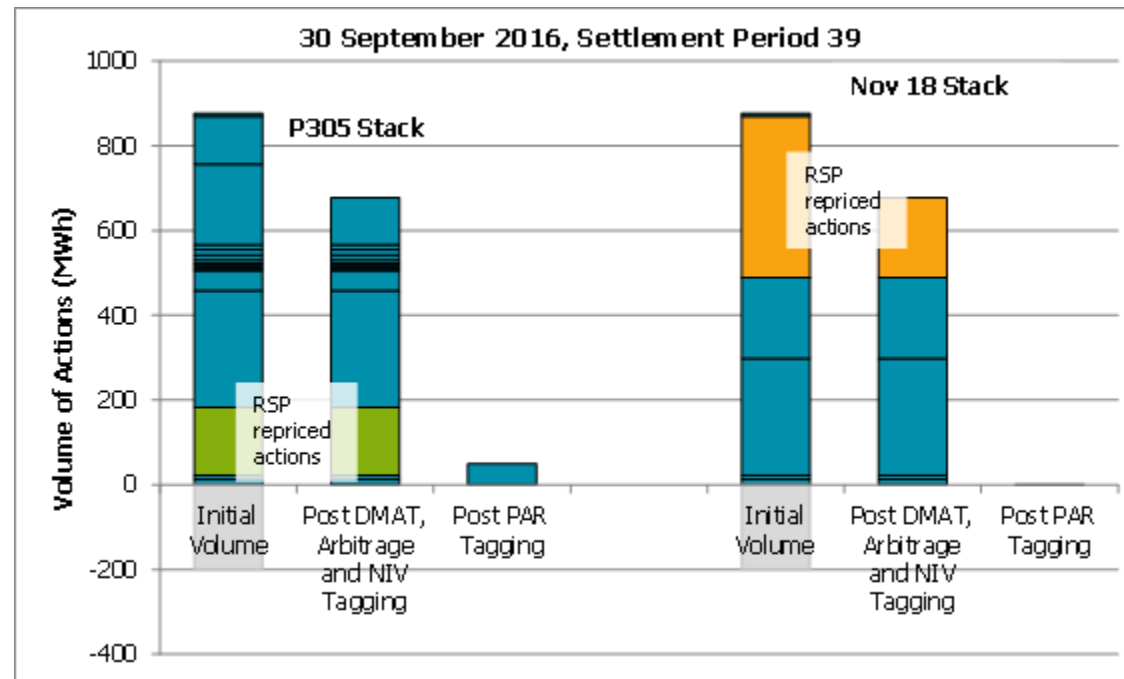
- Communications@elexon.co.uk

Technical queries?

- Market.analysis@elexon.co.uk
- Imbalance Pricing Guidance for full detail about the System Price calculation: www.elexon.co.uk/reference/credit-pricing/imbalance-pricing/
- System Price Analysis Report at: <https://www.elexon.co.uk/reference/technical-operations/trading-operations-report/>



Repriced STOR actions under November 2018 calculation



- RSP £102/MWh in live scenario, System Price £143/MWh
- RSP £204/MWh in November 2018 scenario, System Price £207/MWh