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NESO Operational Transparency Forum

21 May 2025

NESO
National Energy System Operator

Introduction | Sli.do code #OTF

To ask questions live & give us post event feedback go to Sli.do event code #OTF

- **Ask your questions as early as possible** as our experts may need time to ensure a correct answer can be given live.
- **Please provide your name or organisation**. This is an operational forum for industry participants therefore questions from unidentified parties will not be answered live. If you have reasons to remain anonymous to the wider forum, please use the advance question or email options below.
- **The OTF is not the place to challenge the actions of individual parties** (other than the NESO), and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: marketreporting@nationalenergyso.com
- **Questions will be answered in the upvoted order whenever possible**. We will take questions from further down the list when: the answer is not ready; we need to take the question away or the topic is outside of the scope of the OTF.
- **Sli.do will remain open until 12:00**, even when the call closes earlier, to provide the maximum opportunity for you to ask questions. After that please use the advance questions or email options below.
- **All questions will be recorded and published.** Questions which are not answered on the day will be included, with answers, in the slide pack for the next OTF.
- **Ask questions in advance** (before 12:00 on Monday) at: https://forms.office.com/r/k0AEfKnai3
- **Ask questions anytime** whether for inclusion in the forum or individual response at: box.nc.customer@nationalenergyso.com

Stay up to date on our webpage: https://www.neso.energy/what-we-do/systems-operations/operational-transparency-forum (OTF Q&A is published with slide packs)

Note: to access previous OTF webinars from Slido click on the three lines to the left of forum title

Future deep dive / focus topics

Slido code #OTF

Today's Focus Topics/deep dives

Frequency Risk and Control Report (FRCR) Update

April Balancing Costs

Future

Submission of offer prices in the BM: wind & solar – 28 May

Regional Energy Strategic Plans (RESP) – 4 June

May Balancing Costs – 18 June

If you have questions/suggestions of areas to cover during above presentations or ideas for deep dives or focus topics you would like us to consider, please send them to us at: box.nc.customer@nationalenergyso.com

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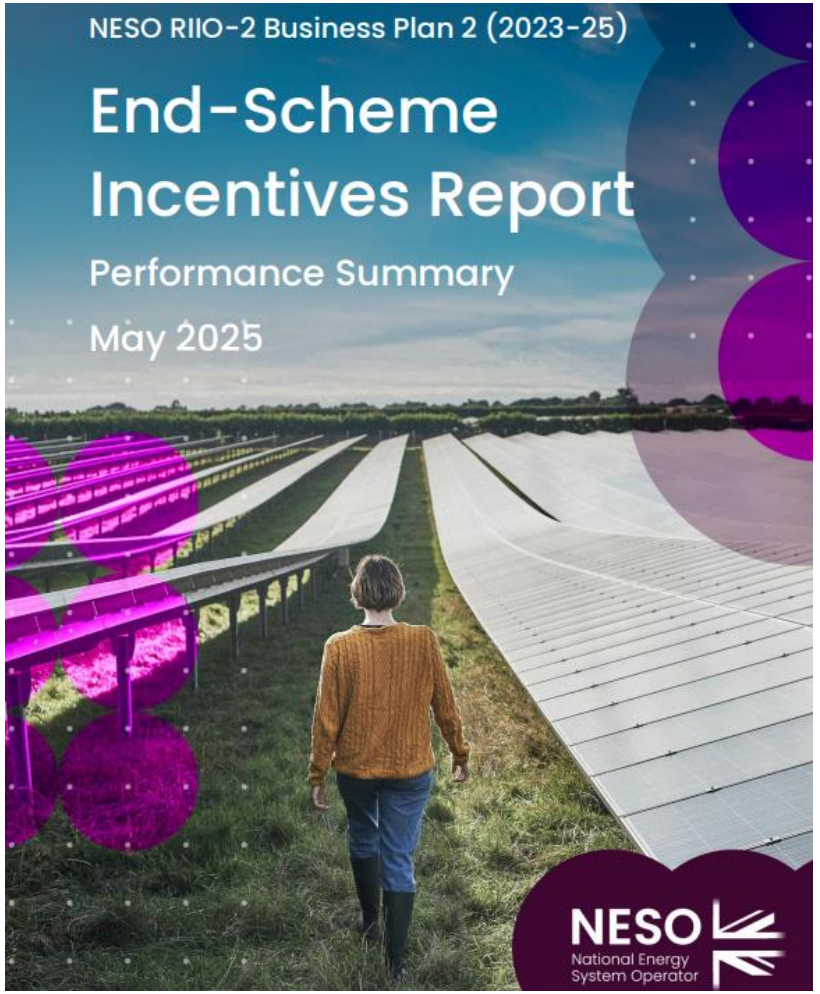
Virtual Q&A Event for RIIO-2 Business Plan 2 (BP2) End-scheme performance

Slido code #OTF

Join our virtual live Q&A event for an opportunity to ask questions on our performance and delivery over the second year of BP2 (Apr-24 to Mar-25) including the activity we've undertaken as part of our successful transformation to NESO.

Tuesday 10 June 09:30

Event Registration Link



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Slow Reserve and Balancing Reserve – Article 18 consultations

Slido code #OTF

- Respond to our EBR Article 18 consultations by **16 June** to influence the introduction of Slow Reserve and implement changes to Balancing Reserve.

- These independent consultations seek to co-optimise both Slow Reserve and Balancing Reserve auctions with the existing co-optimised Quick Reserve and Dynamic Response auction. As a result, both consultations look to introduce new procurement rule definitions across the suite of Quick Reserve, Dynamic Response, Slow Reserve and Balancing Reserve services.

Slow Reserve

Balancing Reserve

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NESO Data Portal update

We are pleased to announce a significant update to the NESO Data Portal. On **2 June 2025**, Data Portal URLs that do not belong to the NESO domain will be disabled.

The NESO Data Portal offers colleagues and the public access to data. As part of our efforts towards the digitalisation of NESO, we are implementing updates to the NESO Data Portal to improve user experience.

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What is changing?

Effective 2 June 2025, URLs (website addresses) pertaining to the Data Portal that use the National Grid and ESO domains will not work.

In recent months, the Data Portal has been accessible via multiple URLs, including the new NESO domain URL and older URLs using the National Grid or ESO domains. Older URLs functioned due to redirections, but all redirections will end on 2nd June 2025. This change is intended to streamline processes and enhance user experience.

Which URLs to use?

To access the Data Portal User Interface, or to consume data published on the Data Portal, do the following:

- **Data Portal front end** - Access the NESO Data Portal using the URL - https://www.neso.energy/data-portal/ . Alternatively, the Data Portal can also be accessed through the NESO website by searching for Data Portal in the search bar. Do not use https://www.nationalgrideso.com/data-portal and http://www.data.nationalgrideso.com. We recommend updating your saved bookmarks and links accordingly.
- **Data Portal's application programming interface (API)** - Data consumers who utilize APIs to consume and publish data in the Data Portal should use the NESO domain - https://api.neso.energy/ in the URL. Update your scripts and code, with the provided URL for uninterrupted access to published data via APIs. Do not use https://api.nationalgrideso.com/. For further guidance on using APIs to obtain data from the Data Portal, consult this user guide.

For Data Portal queries contact:

box.opendata@nationalenergyso.com

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BSC Modification: P462 Call for Evidence

Slido code #OTF

- The Call for Evidence for the Cost-Benefit Analysis for Modification P462 The removal of subsidies from Bid Prices in the Balancing Mechanism is now open and will close on **13 June 2025**.

- Information is available on the P462 Call for Evidence webpage, plus more information on the Modification itself is available on the P462 Webpage.

- Please provide your response form along with any supporting material to bsc.change@elexon.co.uk. Responses will be shared with CEPA for their analysis.

Future Event Summary

Slido code #OTF

Event	Date & Time	Link
Balancing Programme Forecasting Stakeholder Focus Group	2nd June (13:30-15:00)	Register here
Balancing Programme Optimisation Stakeholder Focus Group	19th May (14:00-16:00) / 5th June (11:30-13:30)	
NESO Data Portal update	2nd June 2025 – National Grid and ESO web addresses stop working	
Markets Forum (Glasgow)	9th June (09:00-16:30)	Register here
Q&A Event for RIIO-2 Business Plan 2 (BP2) End-scheme performance	10th June (09:30-11:30)	Register here
Markets Forum (London)	11th June (09:00-16:30)	Join waiting list
Skip-Rate Drop-In Session	12th June (15:00-16:00)	Register here
Slow Reserve and Balancing Reserve – Article 18 consultations	Deadline: 16th June	Slow Reserve Balancing Reserve
Voltage Control Test	17th June, 10:30-midday – Northern Block 19th June, 10:30-midday – Southern Block	Notification of each test will be posted on Insights Solution
Balancing Programme Event	24th June (09:00-17:30)	Register here

Check out the NESO Events Calendar for more...

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Voltage Control Tests 2025 - Notification

Slido code #OTF

- Annual testing of Voltage Control capability will take place in June. Voltage Control, or Voltage Reduction, is a provision in Grid Code-Operating Code 6 that allows demand to be reduced as an emergency action when there isn't enough generation to meet demand.

- Tests are carried out to test operational communication between NESO and DNOs and to validate the volume of demand reduction that can be expected.

- Each stage should deliver between 2% and 4% voltage reduction and the expectation is that each stage will deliver around 1.5% demand reduction.

- Notification of each test will happen through BMRS 24 hours before the test and again on the day, shortly before the test.

- Customers may notice a change in their electricity supply, e.g. dimming of lights , but they should be otherwise unaffected during the tests.

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Voltage Control Tests 2025 - Notification

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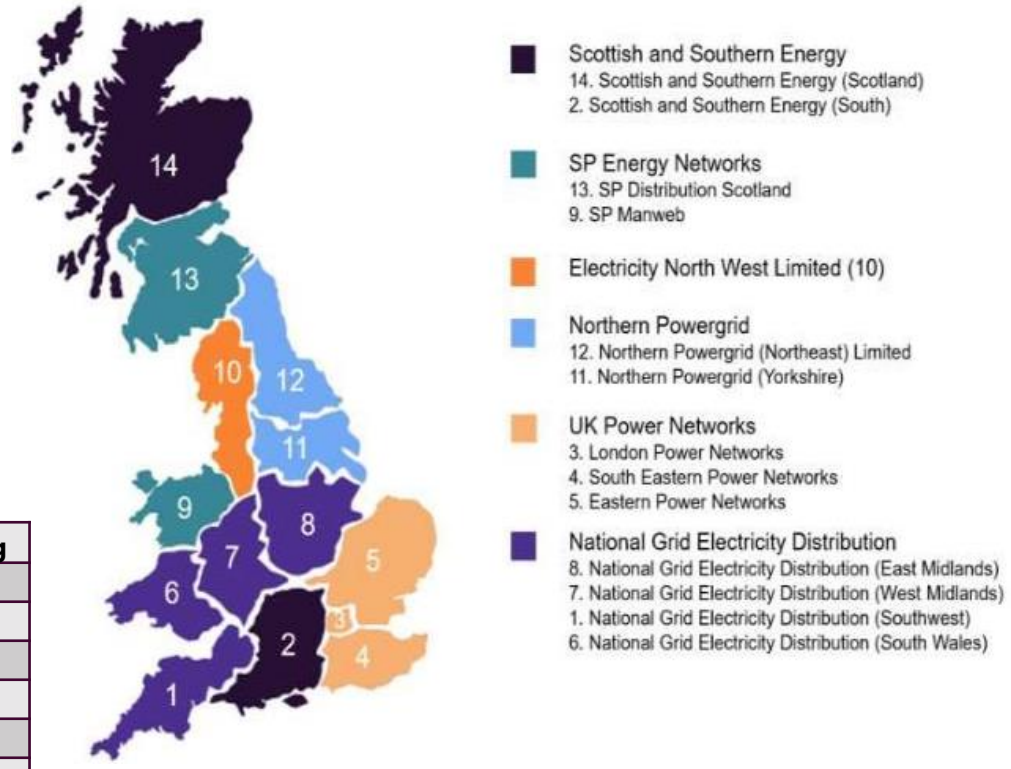
Two tests are scheduled in June, the first test will be the 'Northern' block (9-14 in diagram) and the second will involve the 'Southern' block (1 -8).

Test details:

- Northern block test will take place on Tuesday 17th of June between 10:30 and midday
- Southern block test will take place on Thursday 19th of June between 10:30 and midday

Distribution Network Operator	Test Date (2025)	Block	Testing happening
Scottish Power Distribution (SPD)	17 June	Northern	Stage 1 and 2
SP Manweb plc			Stage 1 and 2
Northern Powergrid (Northeast) Limited (NPG)			Stage 1 and 2
Northern Powergrid (Yorkshire) plc (NPG)			Stage 1 and 2
Scottish Hydro Electric Power Distribution plc			Stage 1 and 2
Electricity North West Limited (ENW)			Stage 1
Southern Electric Power Distribution plc (SSE)	19 June	Southern	Stage 1 and 2
National Grid Electricity Distribution (South Wales) plc			Stage 1 and 2
National Grid Electricity Distribution (South West) plc			Stage 1 and 2
National Grid Electricity Distribution (West Midlands) plc			Stage 1 and 2
National Grid Electricity Distribution (East Midlands) plc			Stage 1 and 2
Eastern Power Networks plc (UKPN)			Stage 1
London Power Networks plc (UKPN)			Stage 1
South Eastern Power Networks plc (UKPN)			Stage 1



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Frequency Risk and Control Report (FRCR) 2025 Update to OTF

21 May 2025

Frequency Risk and Modelling, Markets

NESO

Introduction

Slido code #OTF

- FRCR aims to set out the right balance between risk and cost most beneficial to the GB consumers for managing frequency control.
- *This FRCR policy is analysed, reviewed, consulted upon and updated annually.*
- *FRCR25 Aims:*
  - *Undertake annual review and recommend the policy for frequency control*
  - *Increased industry engagement*
  - *Improved confidence in the assessment process.*

Frequency Risk and Control Report (FRCR) | National Energy System Operator

FRCR Policy Recommendations

Slido code #OTF

The 2025 edition of the FRCR assesses the minimum inertia requirement and the benefits of holding additional response.

Policy recommendation in FRCR 2025:

- Reduce the minimum inertia requirement from **120 GVA.s** to **102 GVA.s**.
- Secure all BMU-only risks as baseline. Do not apply additional controls to secure all BMU+VS and simultaneous events.
- Additional **200 MW** DC-Low requirement to further reduce residual risks.

Policy recommendation sent to Ofgem on 14 May.

Consultation Overview

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FRCR Preparation

- Majority of respondents agreed that FRCR had been prepared well.
- Additional engagement welcomed,

FRCR Policy Recommendations

- Majority of respondents either agreed with the policy recommendations or had regional or wider operability concerns outside of FRCR.
- Request for additional analysis of historic events under the proposed policy and additional DC-L volumes.

Future FRCR

- All FRCR Future comments have been recorded and will be considered for the next FRCR cycle.

FRCR Governance

- Majority of respondents are in favour of SQSS oversight on the FRCR process - To be discussed with SQSS panel.

Frequency Risk and Control Report (FRCR) | National Energy System Operator

Assurance & Post Consultation Activities

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- **Engaged Accenture for review of FRCR**.
  - Phase 1: Review of FRCR Processes to prepare recommendations
  - Phase 2: Review of the consultation process and engagement with consultation responses
- **1-2-1 engagement** with all 7 consultation respondents.
- The **SQSS Panel voted** on the forwarding of the policy recommendations to Ofgem.
- **FRCR Policy Forwarded to Ofgem** for their consideration/approval last week.
- **Final FRCR Documents – Published** on the NESO Website – 16th May

- Future **Inertia engagement session**s with industry this summer.

Frequency Risk and Control Report (FRCR) | National Energy System Operator

Implementation Plan

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- Following approval from Ofgem on FRCR25, we will:
  - ✓ **Monitor system conditions** and implement 102 GVA.s minimum inertia policy when ready. The reduction will occur in two phases, with minimum 5 weeks interval between the phases.
  - ✓ Give industry at least **5 working days' notice** before commencing of policy implementation on OTF.
  - ✓ Increase additional DC-Low requirement to 200 MW. Communicated through the OTF and the volume change through the usual Data Portals forecasts for DC volumes.
  - ✓ Iberian Peninsula blackout event mitigations if required.

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[Frequency Risk and Control Report (FRCR) | National Energy System Operator]

Thank You for Listening

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Monthly Balancing Cost Update

April 2025

Balancing Costs Team

NESO
National Energy System Operator

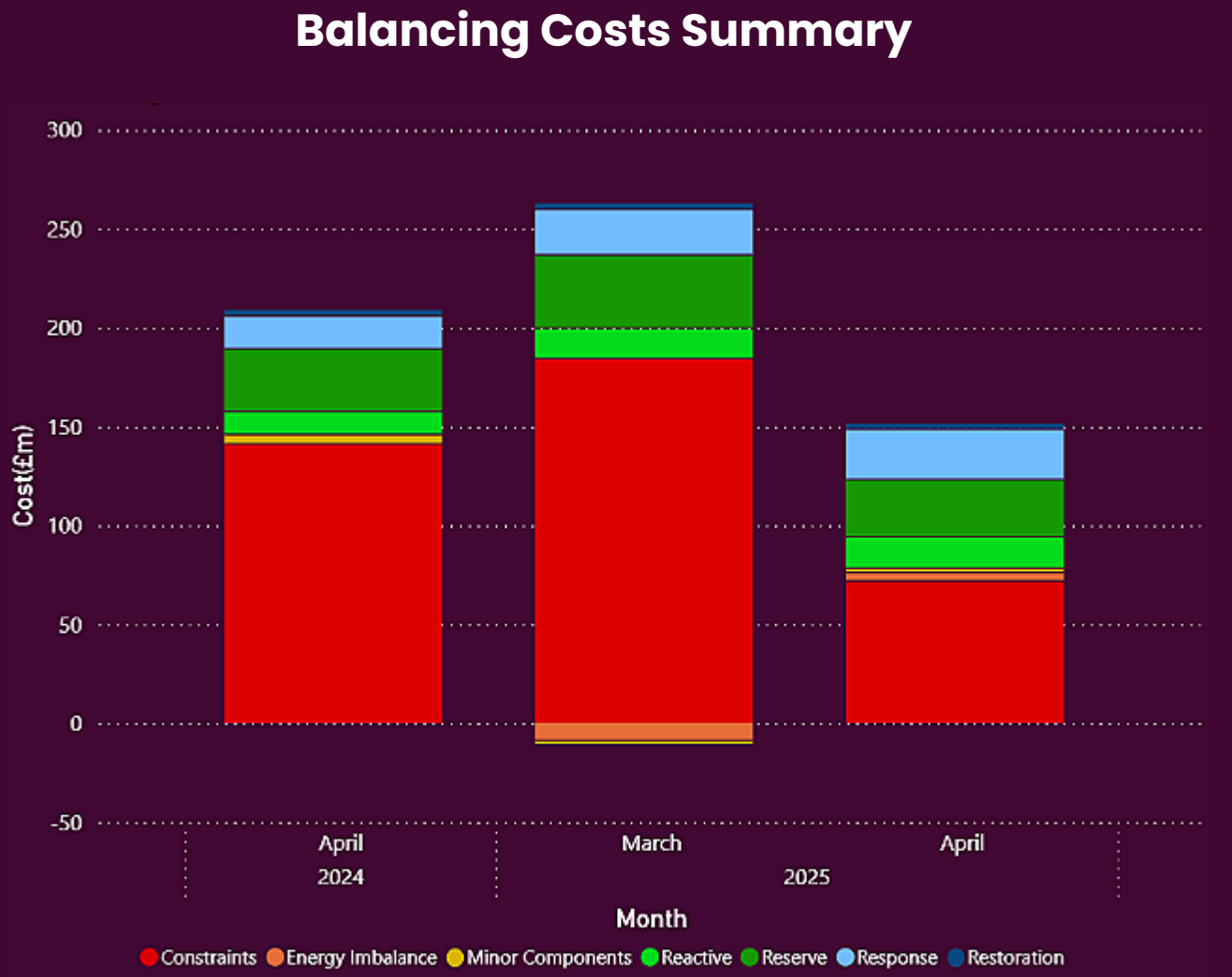
Monthly Cost Summary

Balancing costs in April 2025 were £152m.

This is a decrease of £101m from March 2025 and £57m compared to April 2024.

April was characterised by being a month with little wind, reflected in the lower levels of wind curtailment. This contributed to a significant reduction in constraint costs which were down £113m compared to March and £69m compared to April 2024. Scottish constraints were therefore not particularly active during the month, despite ongoing planned outages.

April was also characterised by low transmission system demand driven by high solar generation and above average temperatures. This contributed to a rise in voltage and inertia spending in April compared to previous months this year. This is due to reduced self-dispatch of synchronous units (i.e. CCGTs) that support voltage and inertia management, which led to NESO procuring those services through the Balancing Mechanism.



System Conditions

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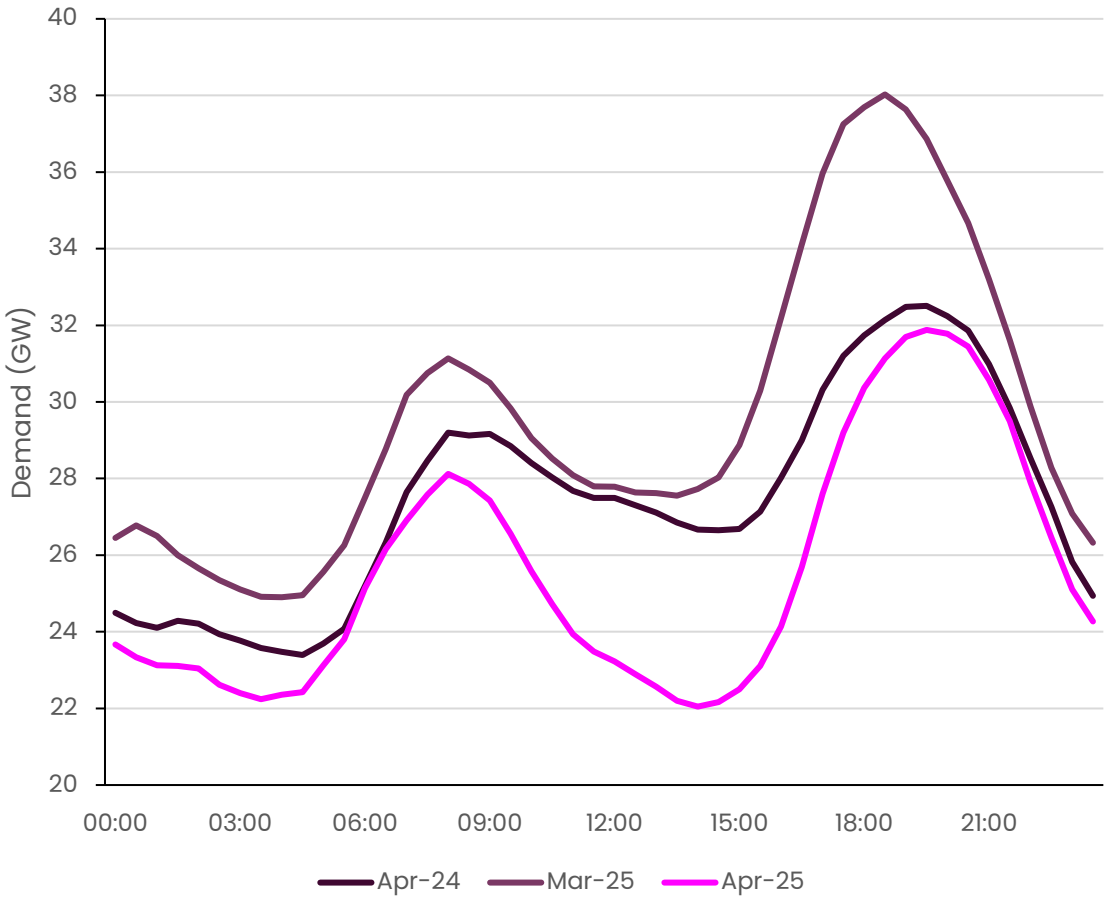
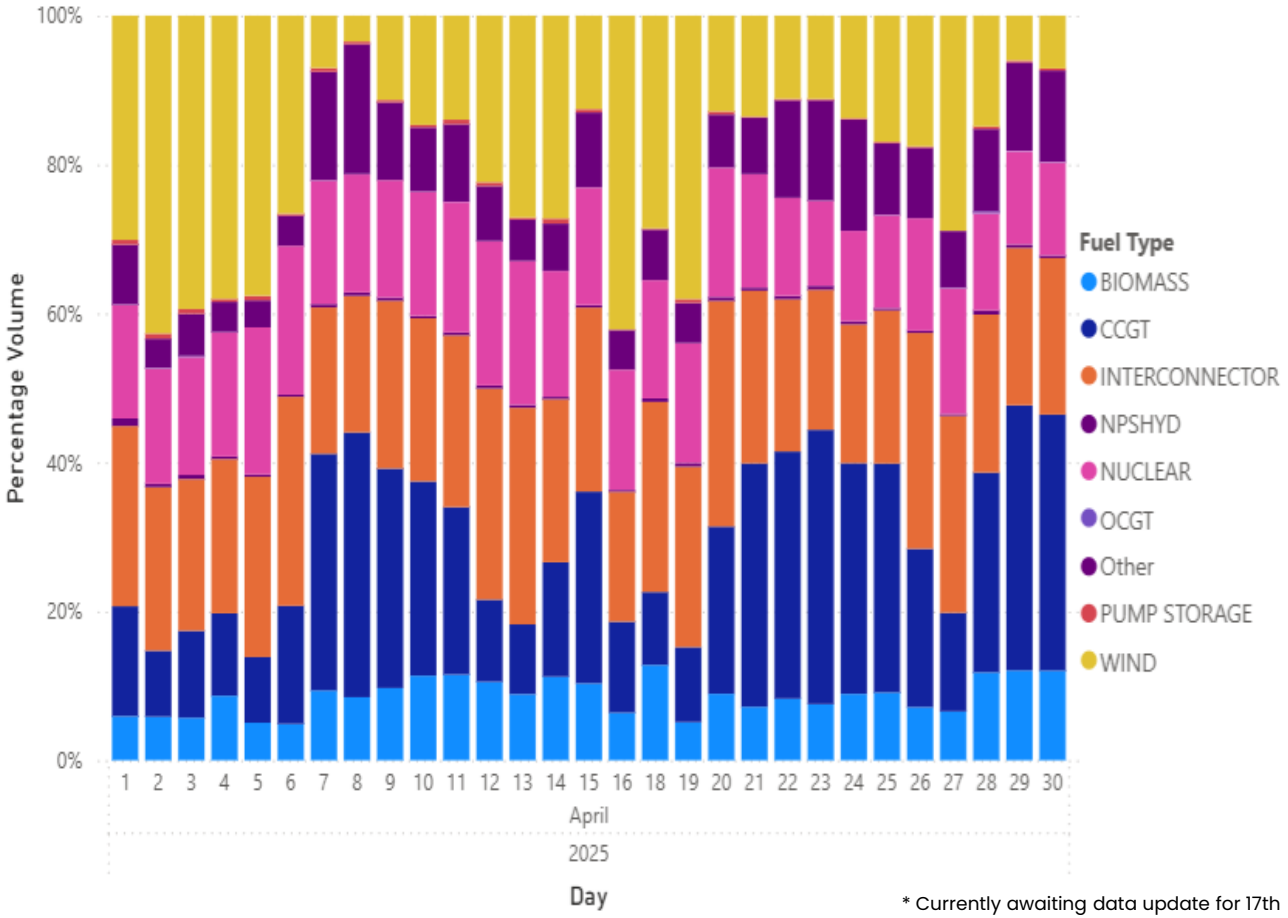
Average Transmission System Demand (GW) - April 25



Daily Generation by Fuel Type



* Currently awaiting data update for 17th

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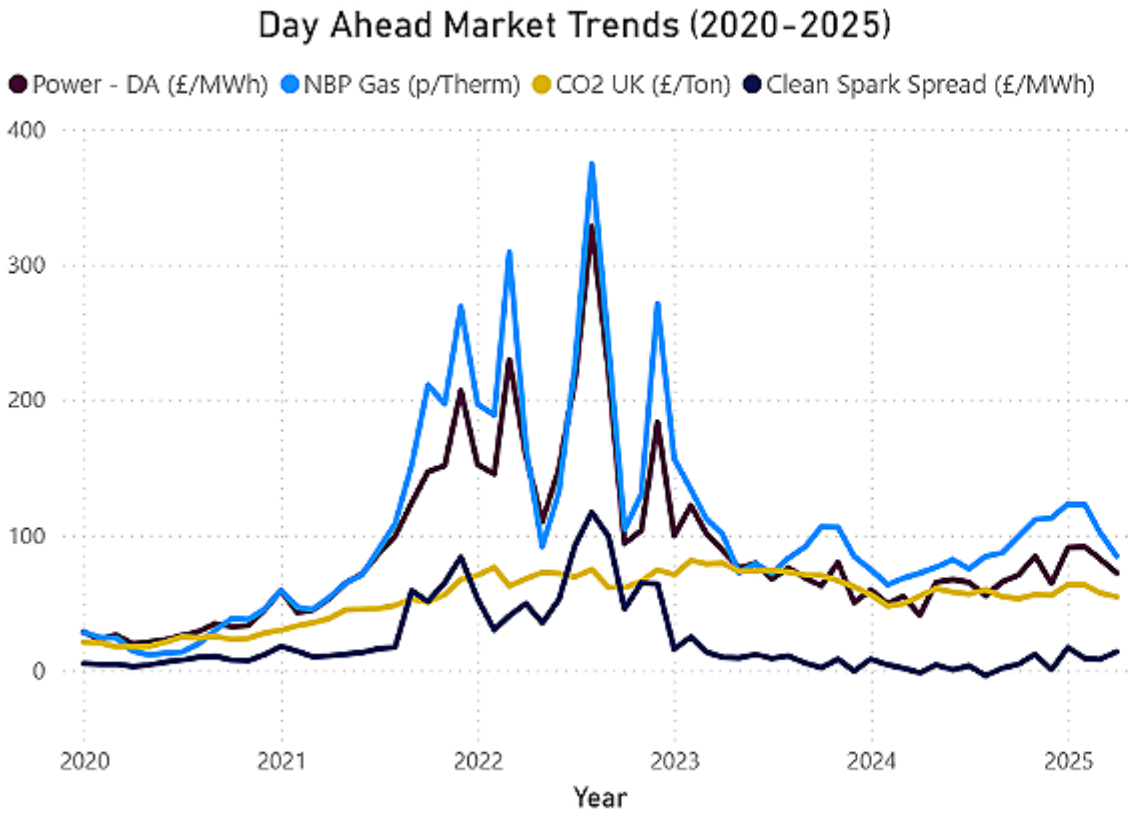
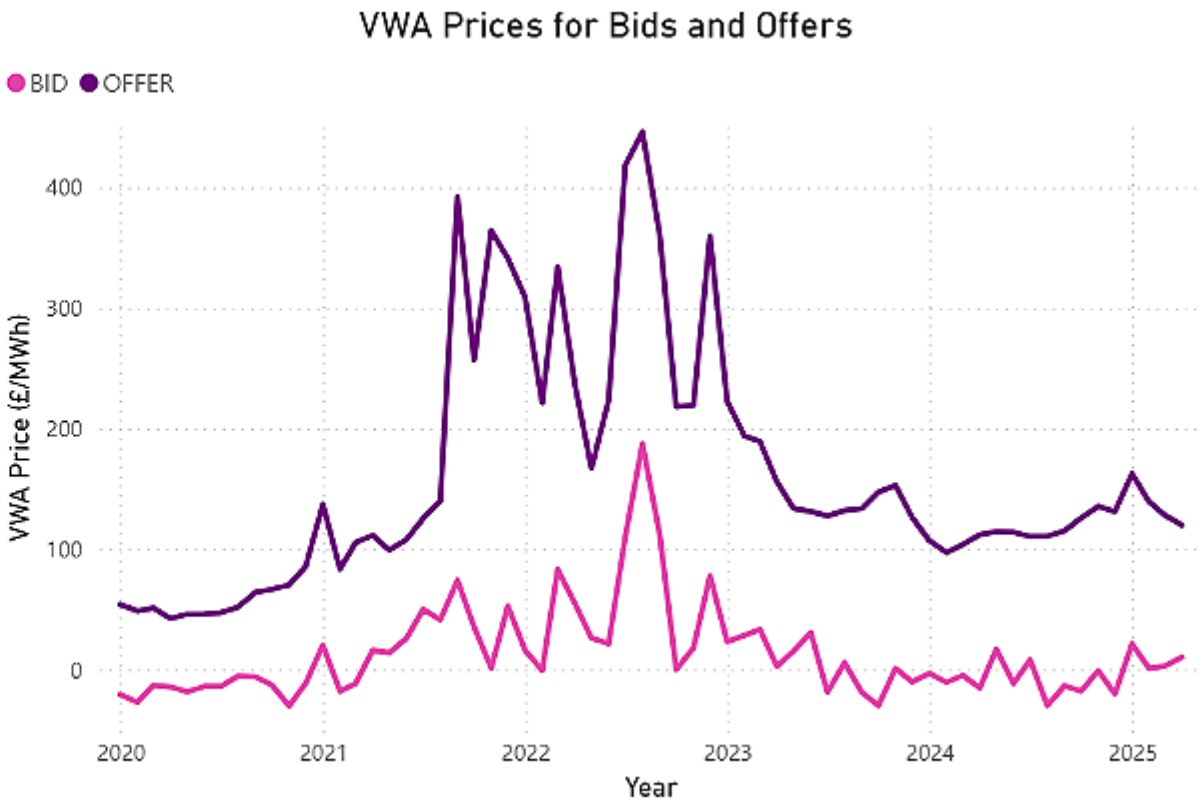
Market Conditions

	DA Power Price	VWA offer price	VWA bid price
Month-on-month change	-£11/MWh	-£16/MWh	+7/MWh
Year-on-year change	+£22/MWh	+£7/MWh	+£25/MWh





VWA: Volume Weighted Average

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Daily Costs and Volumes

The high cost day was 27rd April with a total spend of £11.1m. Higher costs on this day were linked to wind curtailment, with actions to manage Scottish constraints making up around 36% of the total, and voltage and inertia management.

The daily average cost was £5.1m, down £3m on previous month.

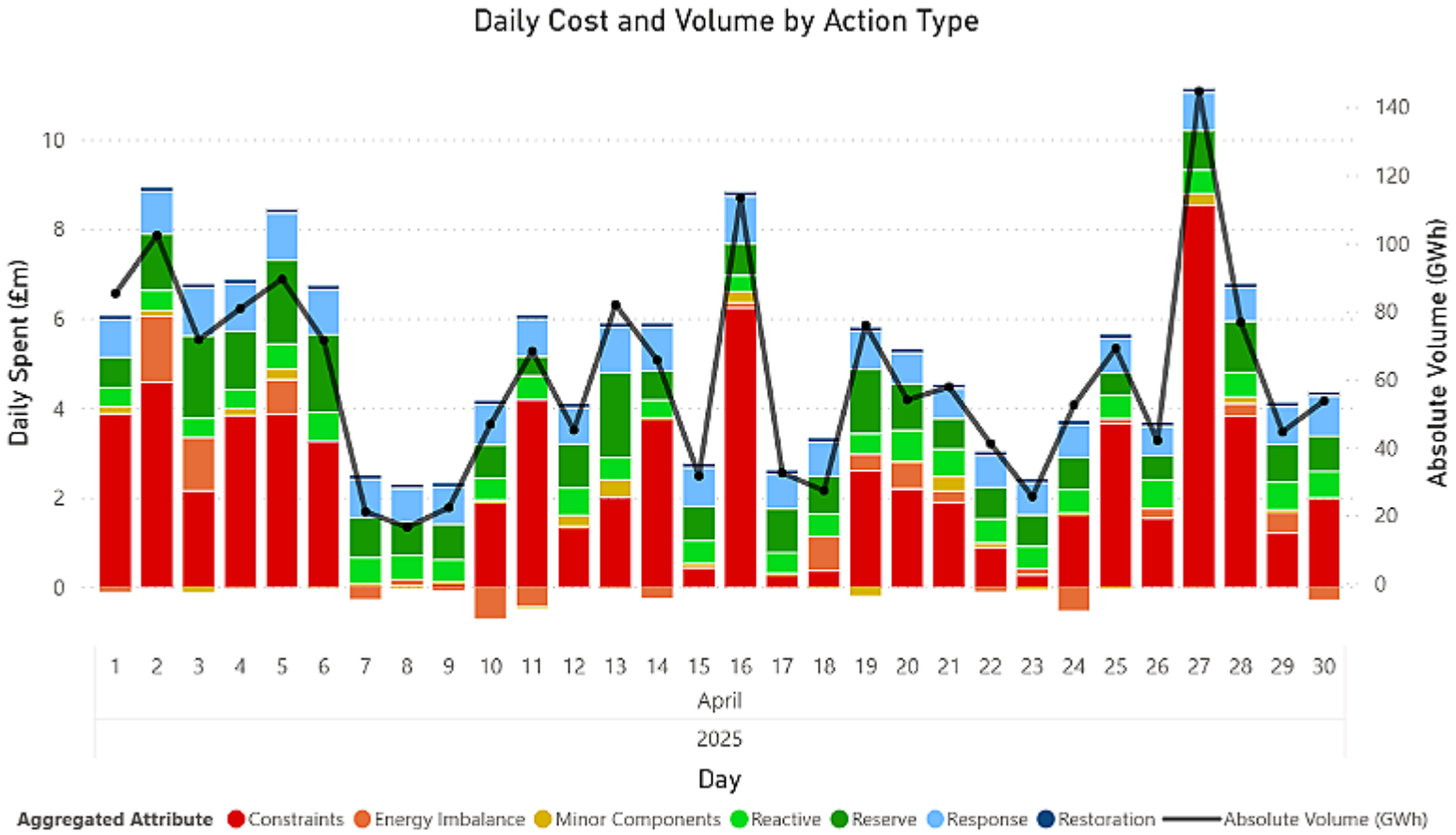
Key trends from previous month:

	Constraint	Non-constraint
Cost	↓ 61%	↑ 17%
Volume	↓ 56%	↑ 21%

Daily average cost:

£5.1m

Slido code #OTF



Wind Outturn

Monthly wind curtailment volume %:

7%

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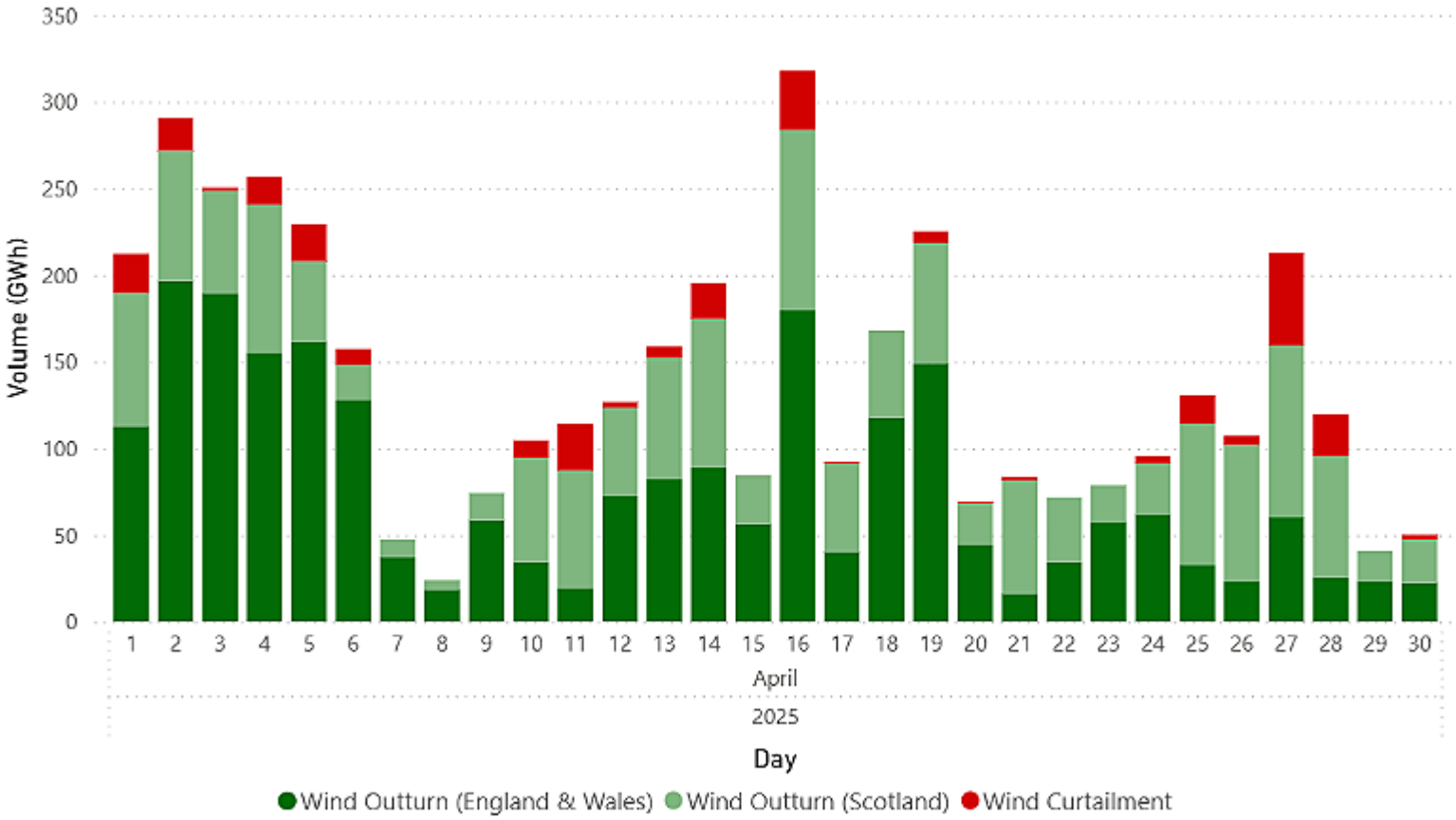
Overall wind outturn in April fell compared to the previous month, rising slightly from 5.3 TWh in March to 4.1 TWh in April.

The highest wind curtailment for the month was seen on 27 April at 53 GWh, representing 25% of the hypothetical outturn. Reflecting active constraints at the Scottish boundaries.

	Total	England & Wales	Scotland
Wind Outturn (TWh)	**4.1**	**2.4**	**1.7**



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Demand | Last week demand out-turn

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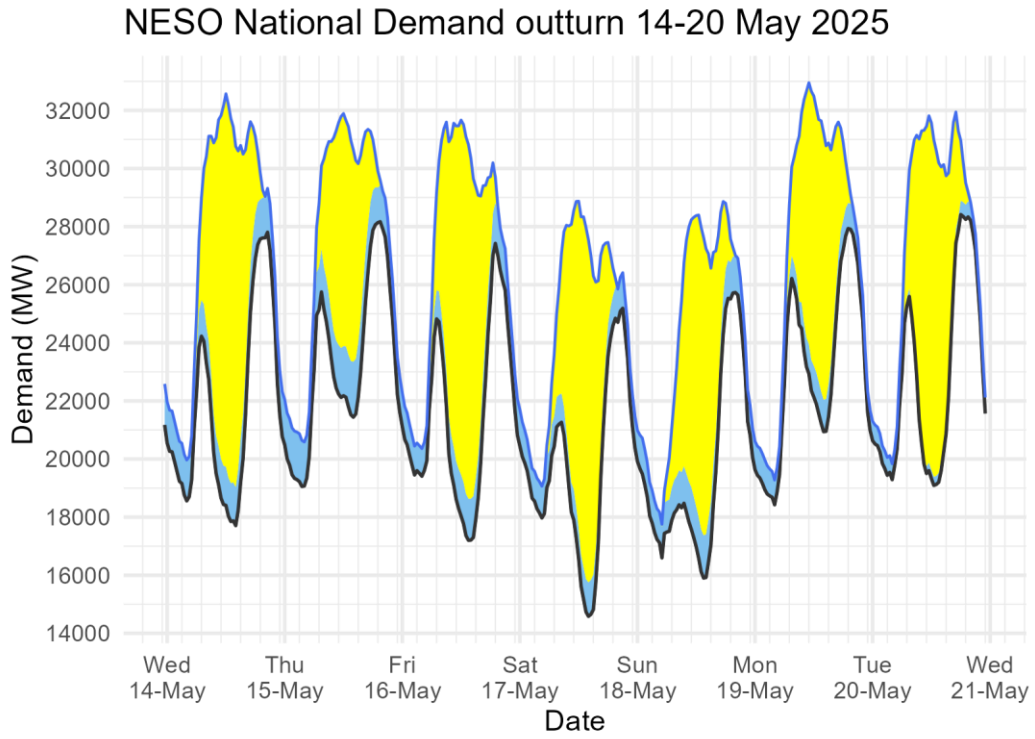


The black line (National Demand ND) is the measure of portion of total GB customer demand that is supplied by the transmission network.
ND values do not include export on interconnectors or pumping or station load

Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it does not include demand supplied by non-weather driven sources at the distributed network for which NESO has no real time data.

Historic out-turn data can be found on the NESO Data Portal in the following data sets: Historic Demand Data & Demand Data Update

Distributed generation

Peak values by day

Date	OUTTURN Daily Max Dist. PV (GW)	OUTTURN Daily Max Dist. Wind (GW)
14 May 2025	12.8	1.7
15 May 2025	8.0	1.9
16 May 2025	12.3	1.6
17 May 2025	12.1	1.3
18 May 2025	10.4	1.5
19 May 2025	9.3	1.1
20 May 2025	11.9	0.7

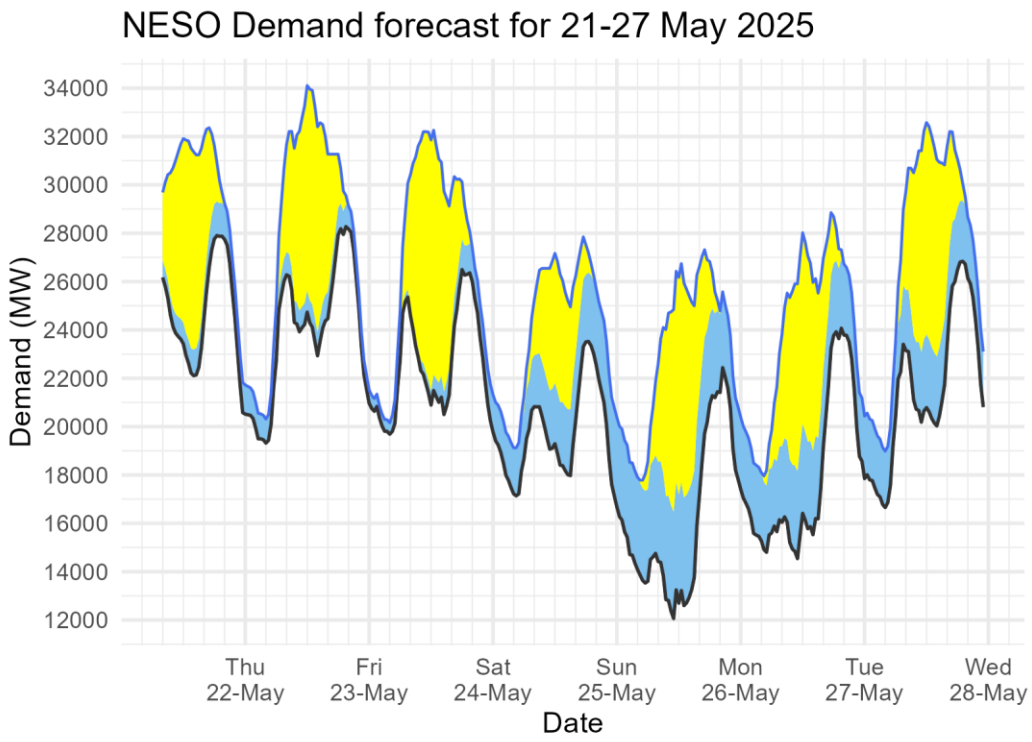
National Demand

Minimum Demands

Date	Forecasting Point	FORECAST (Wed 14 May) National Demand (GW)	FORECAST (Wed 14 May) Dist. wind (GW)	FORECAST (Wed 14 May) Dist. PV (GW)	OUTTURN National Demand (GW)	OUTTURN Dist. wind (GW)	OUTTURN Dist. PV (GW)
14 May 2025	Afternoon Min	18.2	1.4	12.2	17.7	1.3	11.7
15 May 2025	Overnight Min	18.8	1.6	0.0	19.1	1.6	0.0
15 May 2025	Afternoon Min	18.8	1.9	11.0	21.4	1.9	7.3
16 May 2025	Overnight Min	18.8	1.2	0.0	19.4	1.0	0.0
16 May 2025	Afternoon Min	17.0	1.5	12.2	17.2	1.4	12.2
17 May 2025	Overnight Min	17.6	1.3	0.1	18.0	1.1	0.0
17 May 2025	Afternoon Min	14.2	1.3	11.3	14.6	1.2	11.8
18 May 2025	Overnight Min	16.4	1.0	1.4	16.6	1.1	0.1
18 May 2025	Afternoon Min	15.1	1.0	10.7	15.9	1.5	10.3
19 May 2025	Overnight Min	17.6	1.2	0.0	18.4	0.9	0.0
19 May 2025	Afternoon Min	19.0	1.1	11.8	20.9	1.1	9.2
20 May 2025	Overnight Min	18.7	0.9	0.0	19.3	0.5	0.0
20 May 2025	Afternoon Min	21.9	0.8	7.6	19.1	0.3	11.6

Demand | Week Ahead

Slido code #OTF



National Demand
Minimum Demands

		FORECAST (Wed 21 May)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
21 May 2025	Afternoon Min	22.1	1.1	8.2
22 May 2025	Overnight Min	19.3	1.0	0.0
22 May 2025	Afternoon Min	22.9	1.0	8.5
23 May 2025	Overnight Min	19.7	0.5	0.0
23 May 2025	Afternoon Min	20.5	1.0	8.3
24 May 2025	Overnight Min	17.1	1.9	0.0
24 May 2025	Afternoon Min	18.0	2.7	4.2
25 May 2025	Overnight Min	13.5	3.8	0.7
25 May 2025	Afternoon Min	12.6	4.5	8.9
26 May 2025	Overnight Min	14.8	2.8	0.6
26 May 2025	Afternoon Min	15.5	3.5	7.0
27 May 2025	Overnight Min	16.7	2.3	0.0
27 May 2025	Afternoon Min	20.0	2.9	8.2

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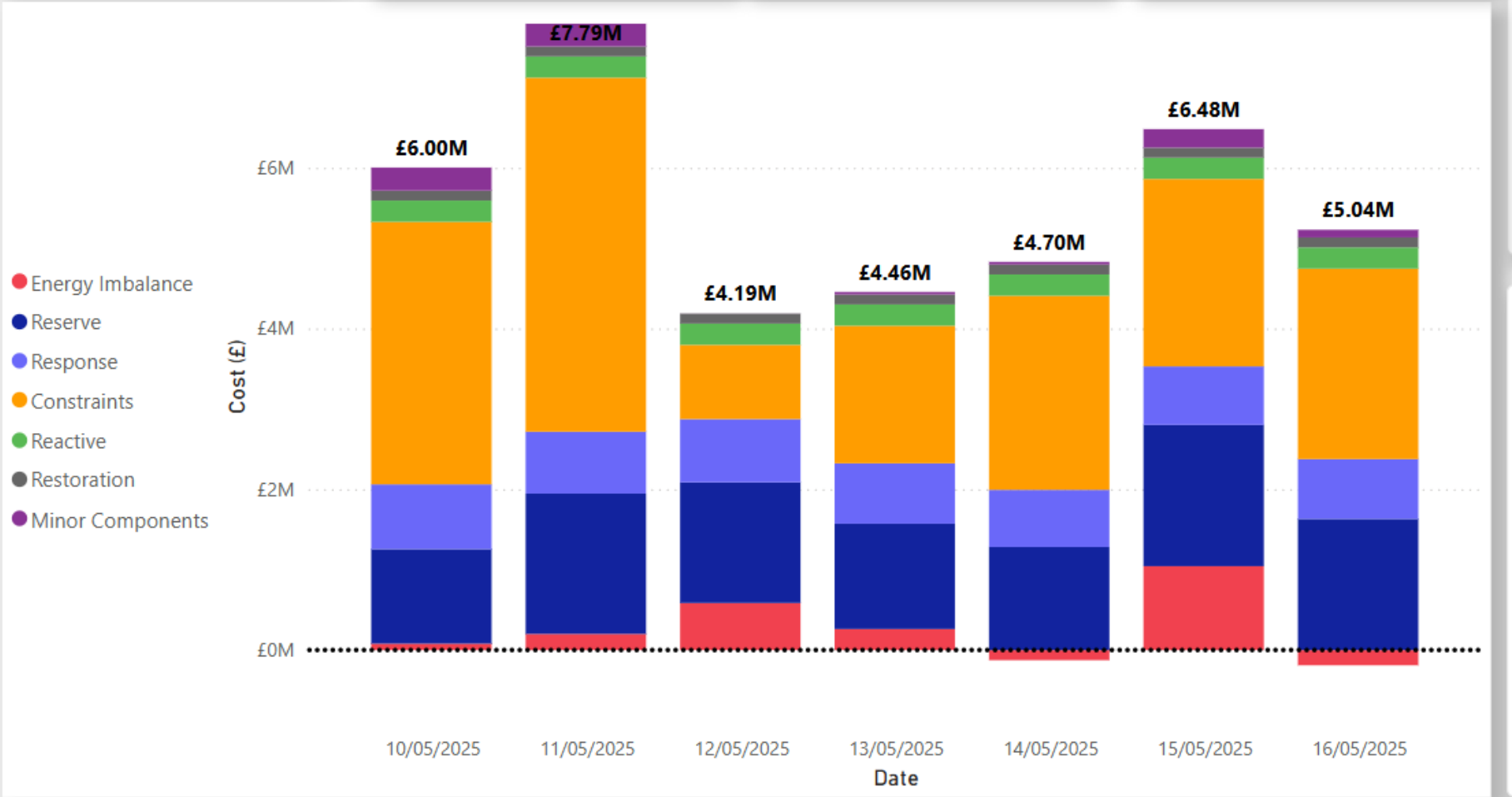
Historic out-turn data can be found on the NESO Data Portal in the following data sets: Historic Demand Data & Demand Data Update

NESO Actions | Category Cost Breakdown

Slido code #OTF

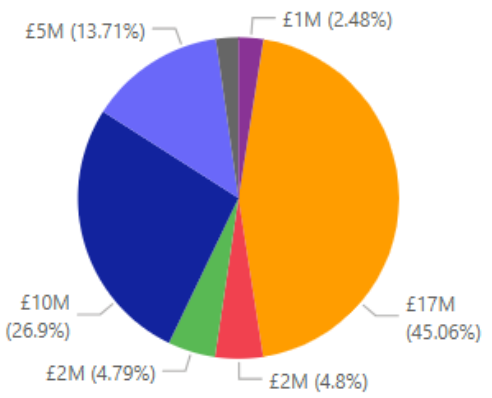
Date
10/05/2025 16/05/2025

Weekly Total Costs (£)	Last Week Total Costs (£)	Past 30-Day Average Costs (£)
£38.7M	£39.8M	£5.3M



Date	Total Outturn Cost
10/05/2025	£6,004,099
11/05/2025	£7,792,977
12/05/2025	£4,187,217
13/05/2025	£4,455,367
14/05/2025	£4,702,658
15/05/2025	£6,481,612
16/05/2025	£5,039,690
Total	£38,663,618

Weekly Cost (£) and Share (%)



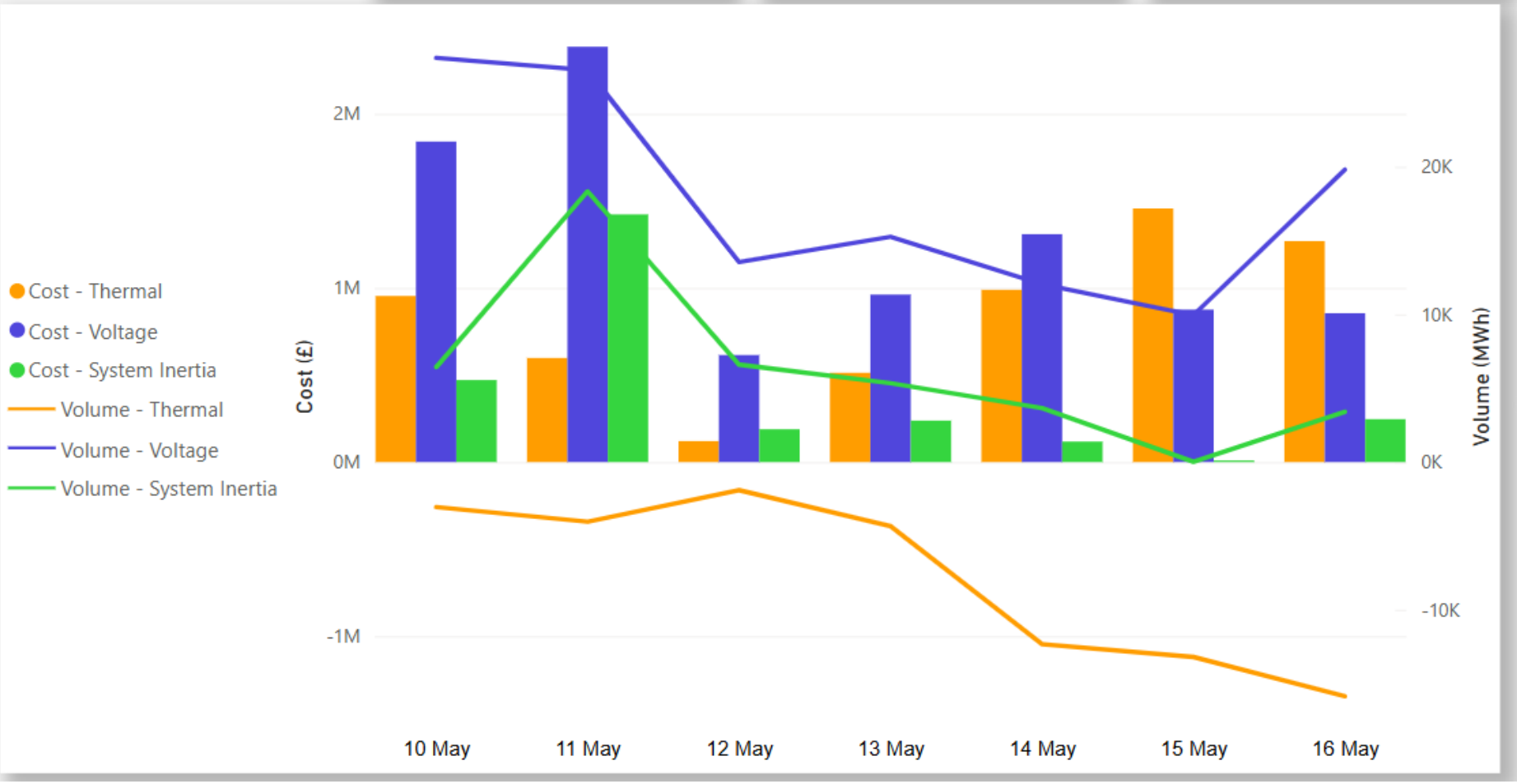
NESO Actions | Constraint Cost Breakdown

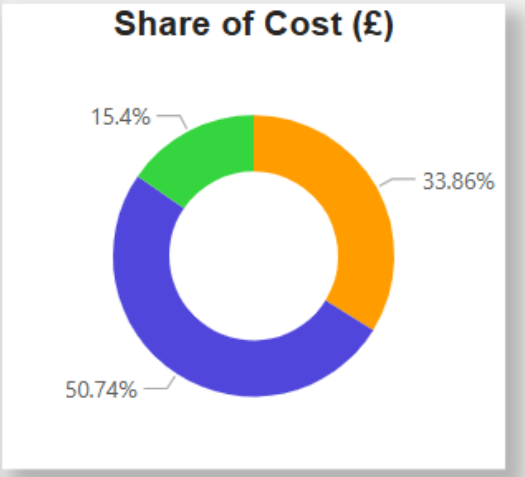
Slido code #OTF

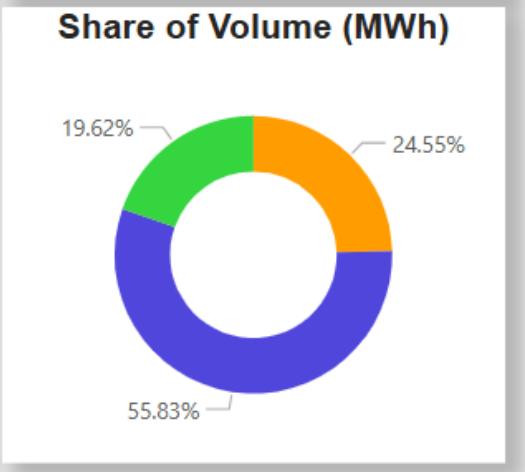
Date

10/05/2025 16/05/2025

Thermal Constraints		Voltage Constraints		System Inertia	
Costs (£)	Vol (MWh)	Costs (£)	Vol (MWh)	Costs (£)	Vol (MWh)
5.90M	54.75K	8.84M	124.49K	2.68M	43.75K

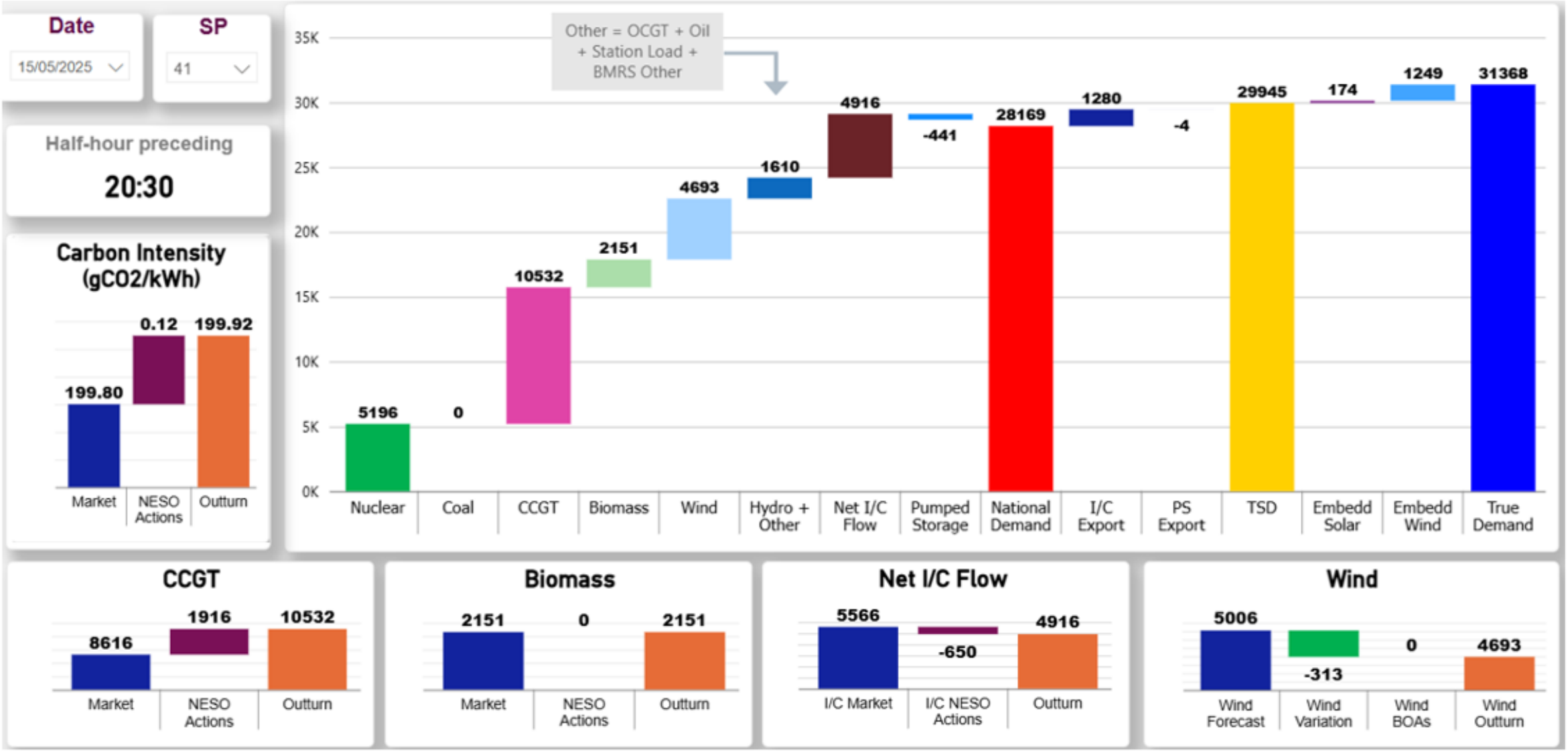






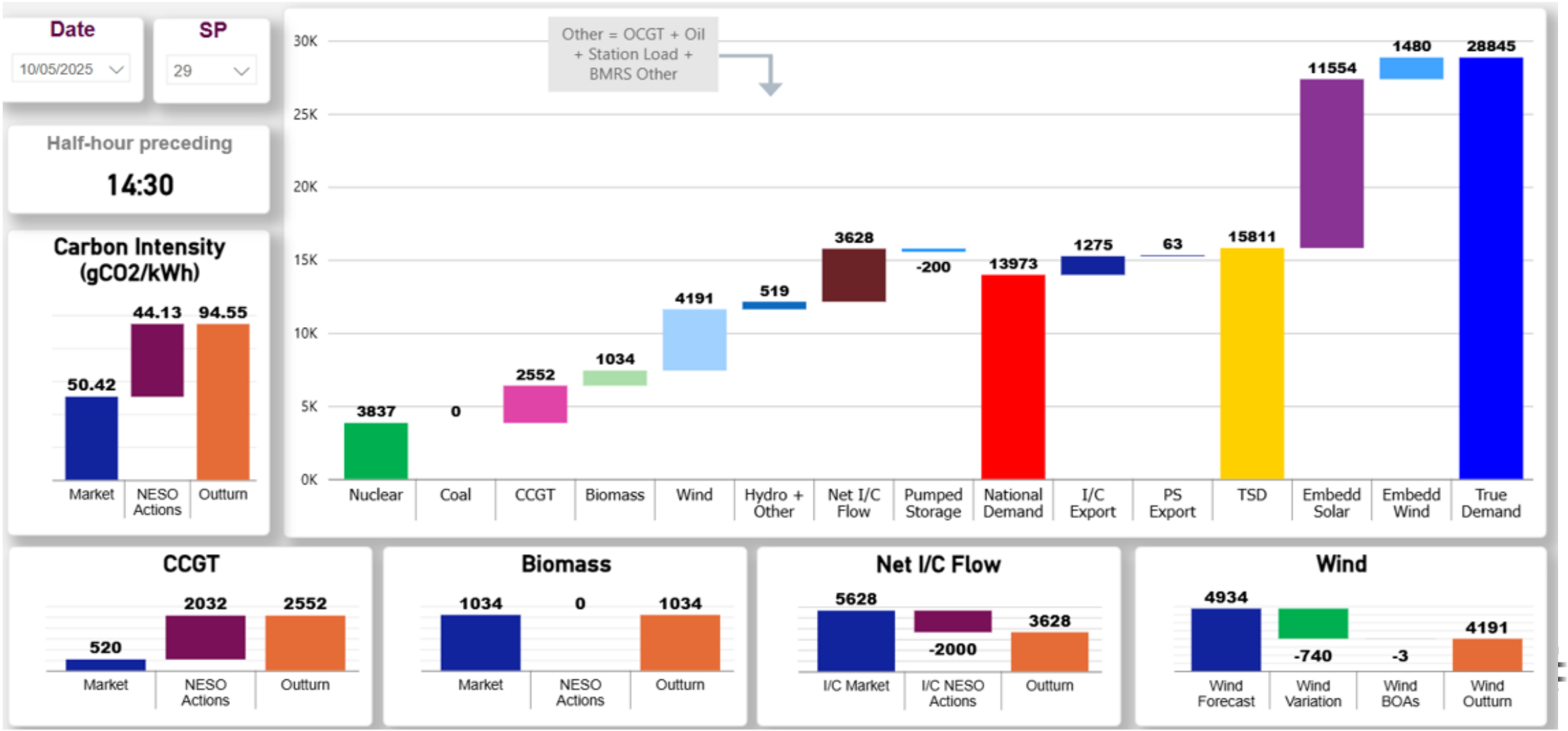
NESO Actions | Peak Demand – SP spend ~£142k
Thursday 15th May

Slido code #OTF



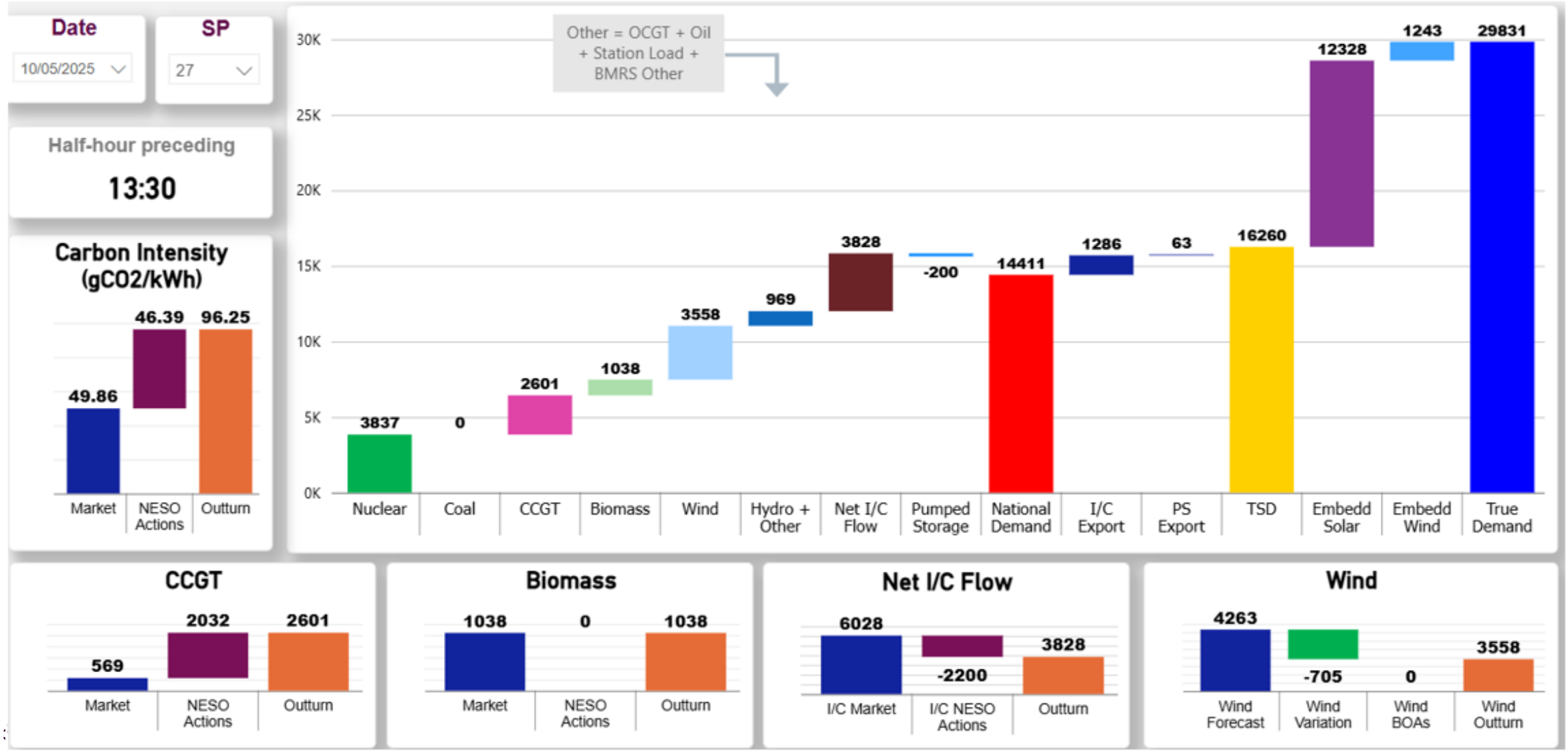
Slido code #OTF

NESO Actions | Minimum Demand – SP spend ~£195k
Saturday 10th May

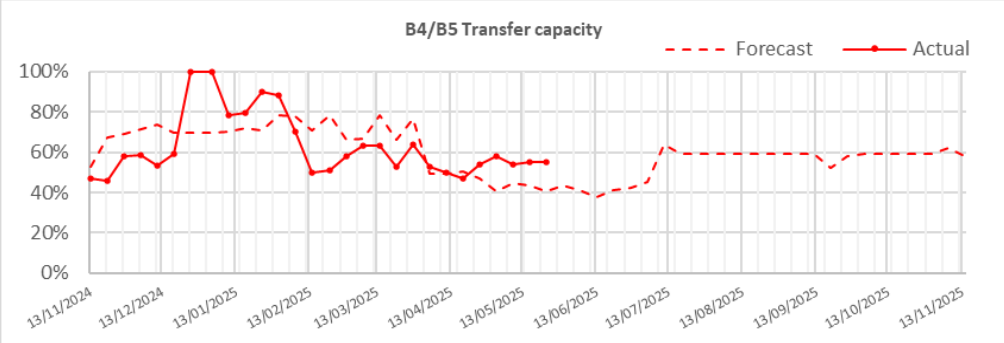


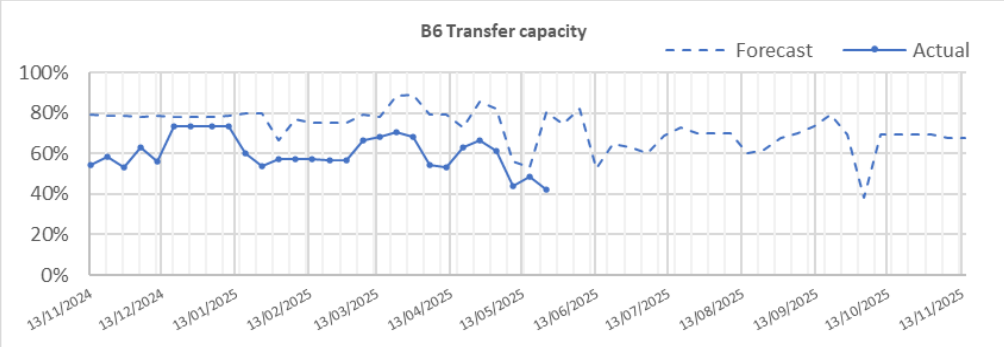
NESO Actions | – Highest SP spend ~£266k Saturday 10th May

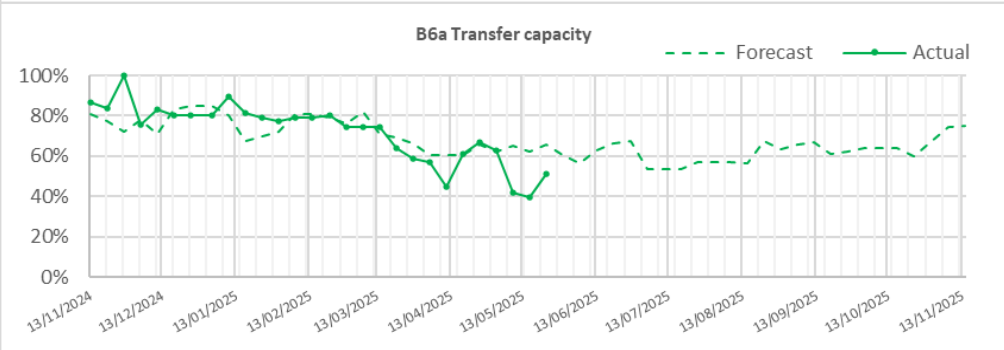
Slido code #OTF



Transparency | Network Congestion







Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5	3400	55%
B6 (SCOTEX)	6800	42%
B6a	8000	51%
B7 (SSHARN)	9850	69%
GMSNOW	5800	44%
FLOWSTH (B9)	12700	75%
DRESHEX	9675	60%
EC5	5000	69%
LE1 (SEIMP)	8750	49%
B15 (ESTEX)	7500	79%
SC1	7300	100%

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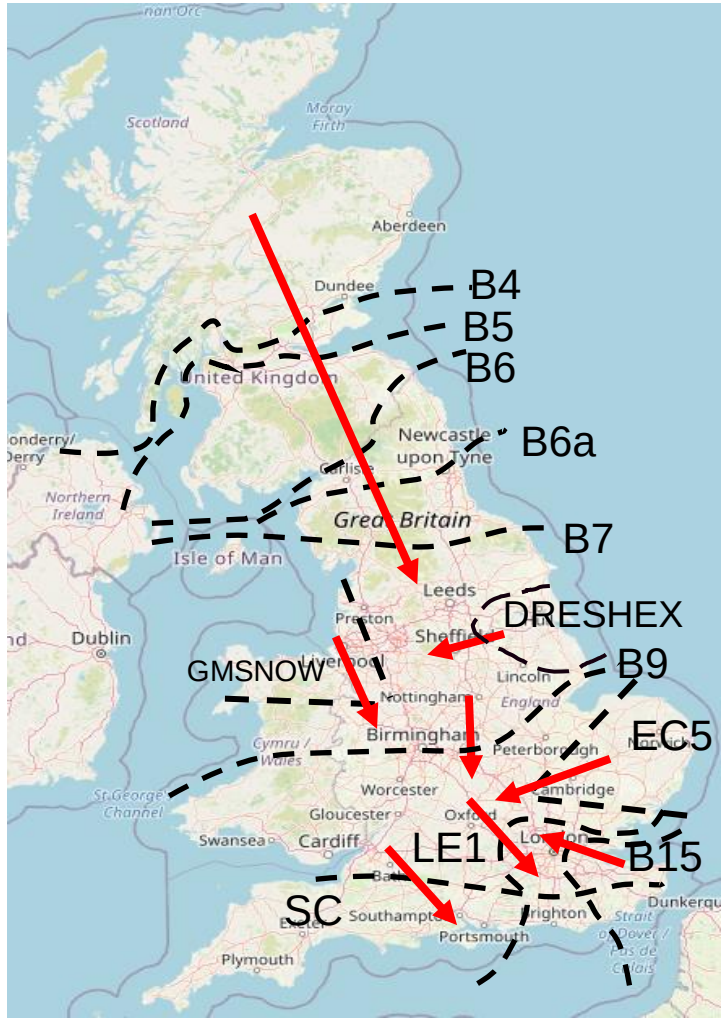
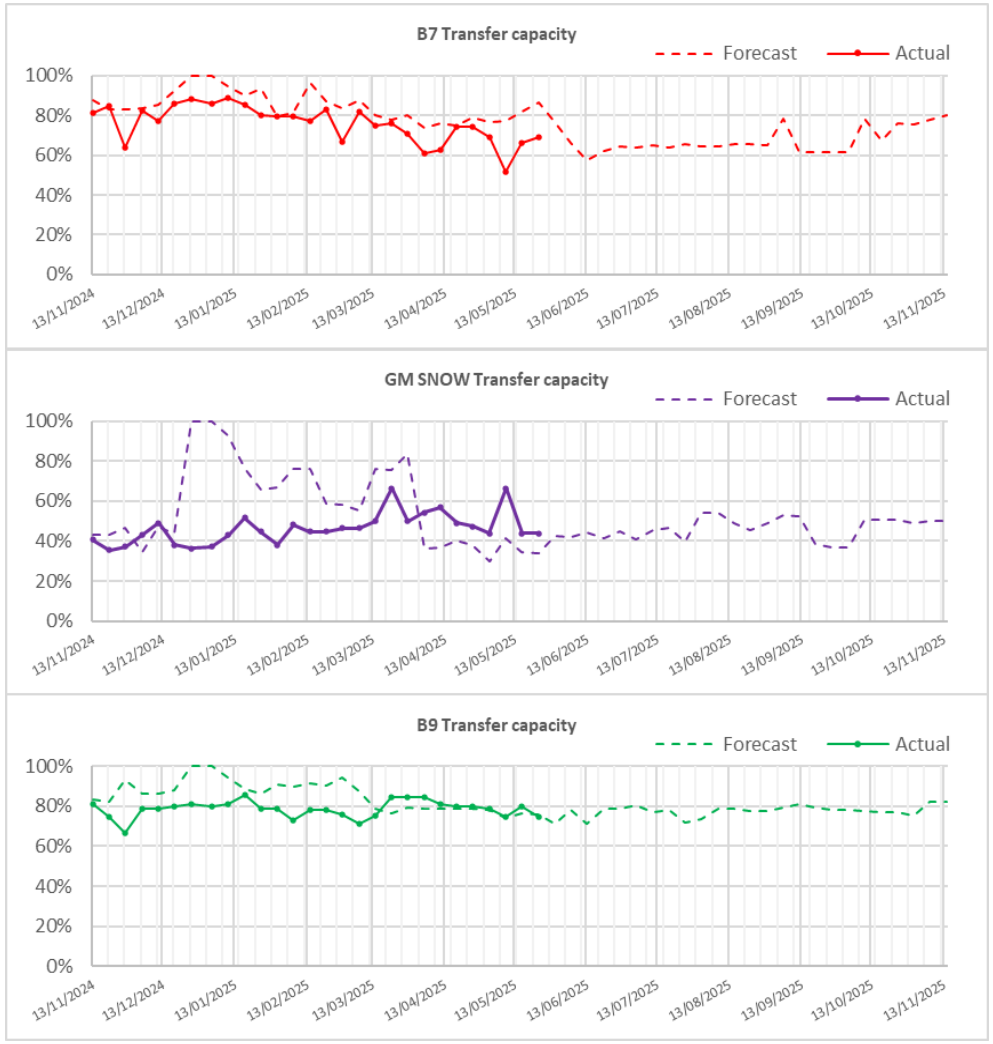


Transparency | Network Congestion



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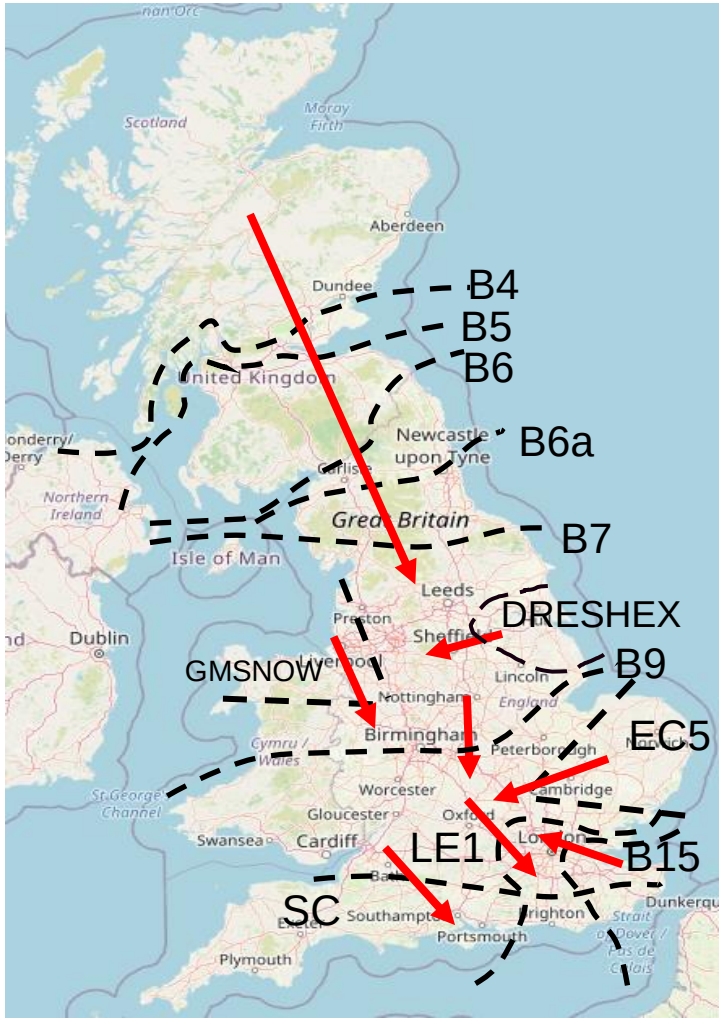
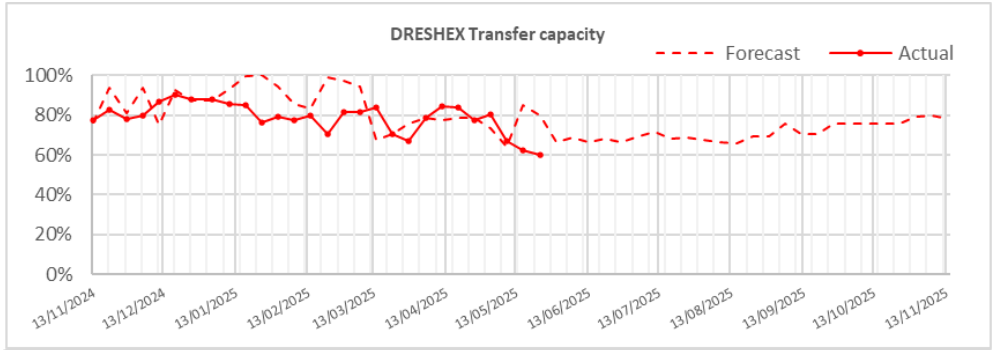
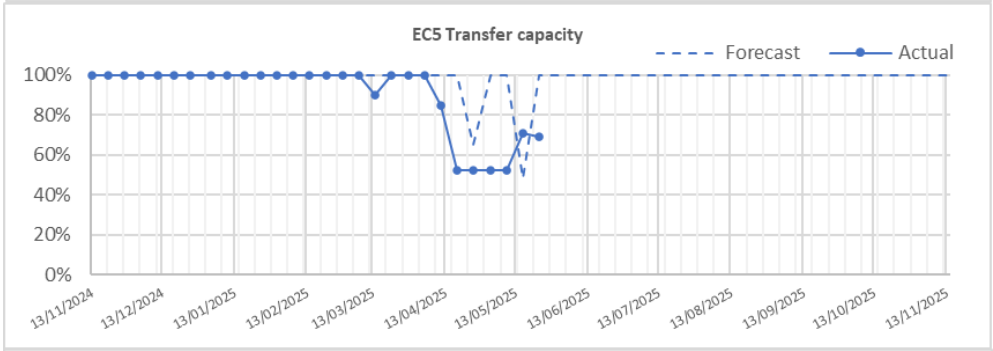
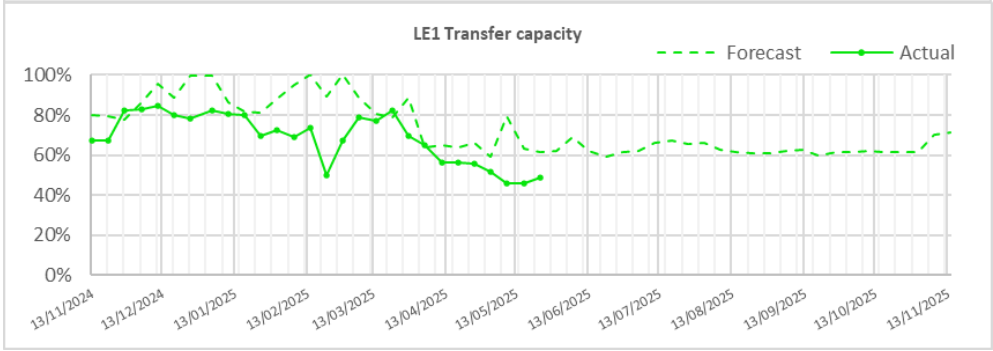


Transparency | Network Congestion







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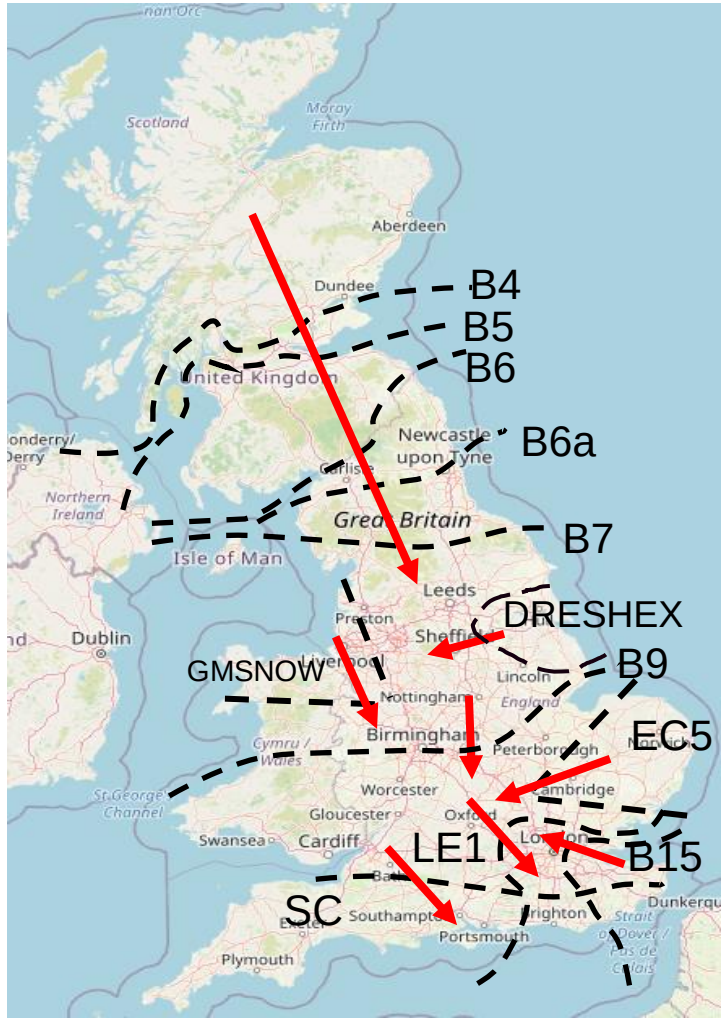

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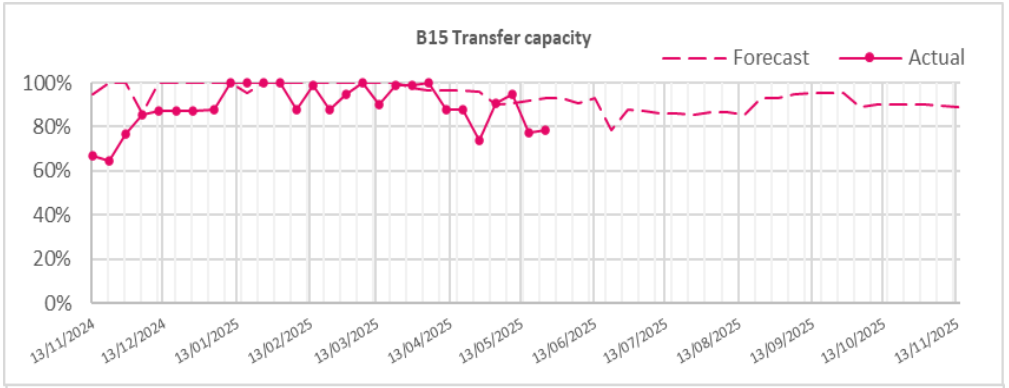
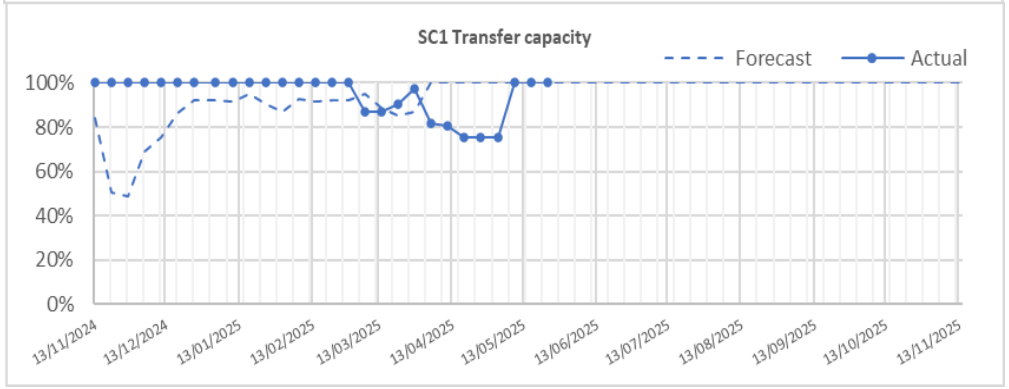
Transparency | Network Congestion





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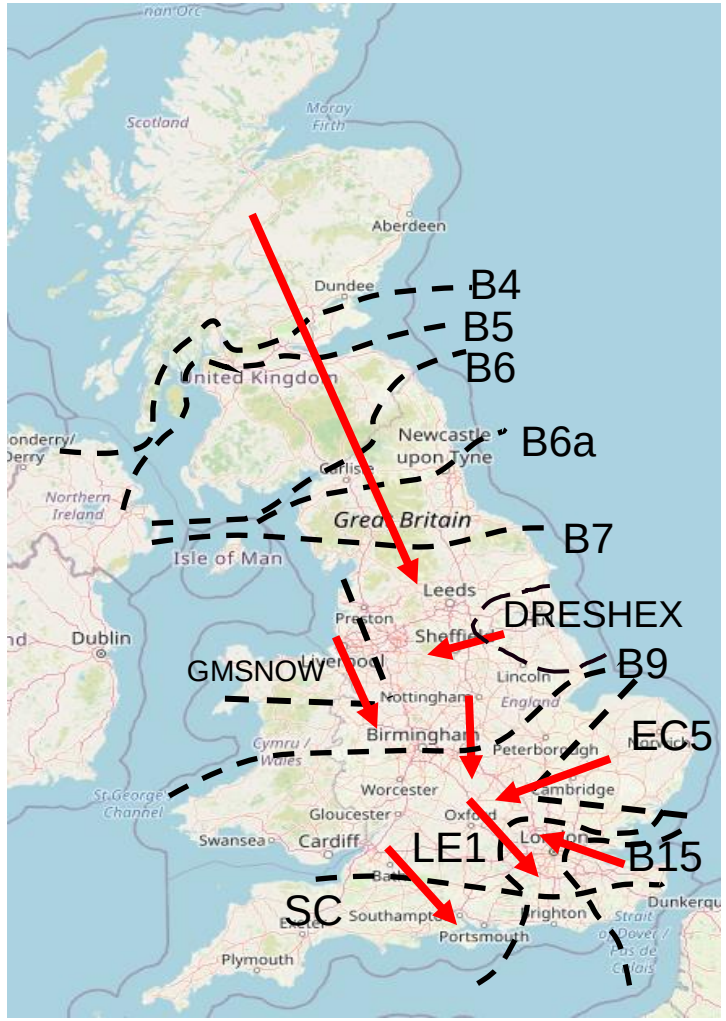


Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal: [Constraints Management]

(The forecast and day ahead limits may vary due to changes in the outage plan. The plan is reviewed periodically throughout the year to ensure we are optimising system conditions, whilst managing any necessary outage plan changes)

NESO National Energy System Operator

Public

Datasets: We have reissued all published datasets to address an inconsistency caused by treatment of marginal units. There are not significant changes to the overall metrics, for more details please see next slide

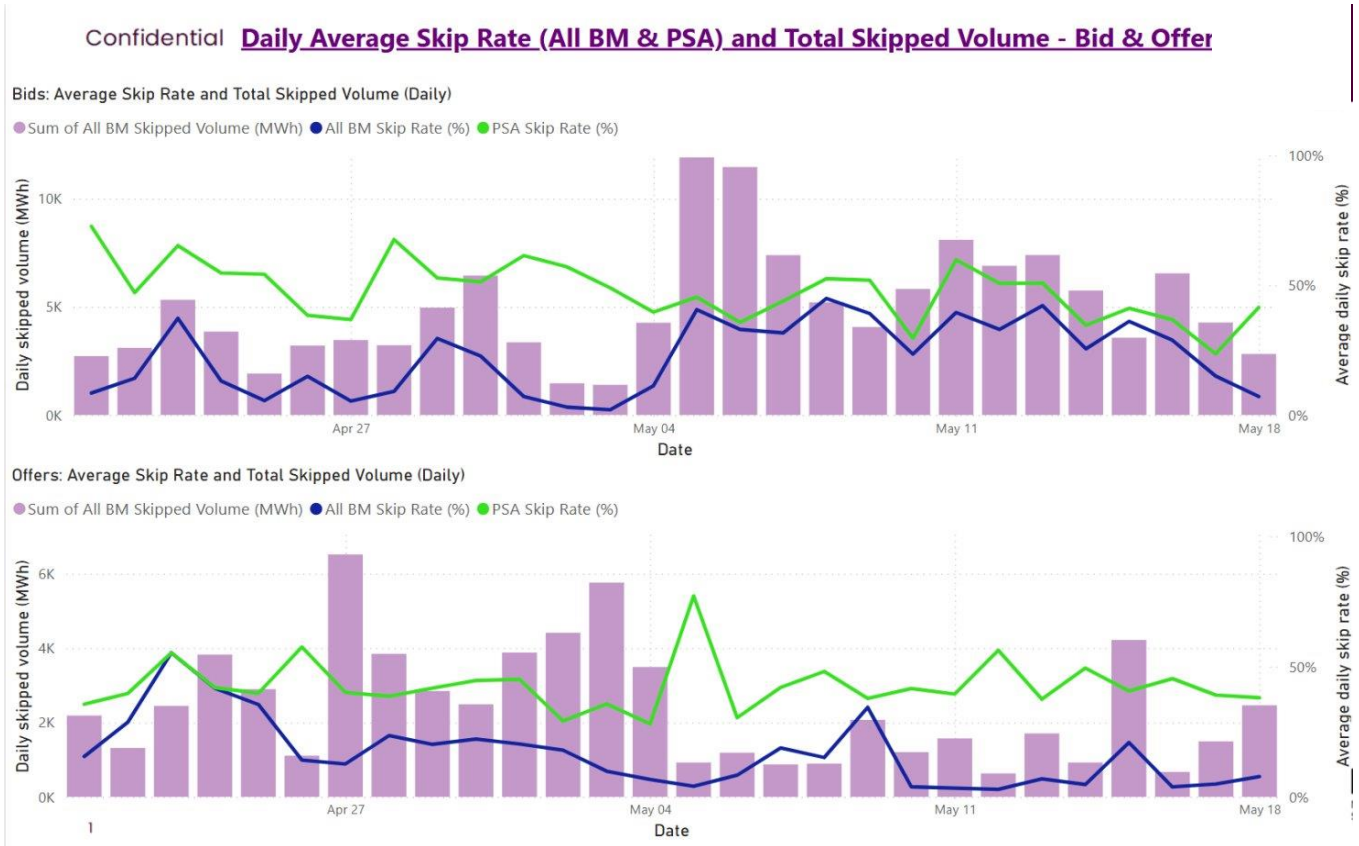
Slido code #OTF

Skip Rates

We are now sharing the summary skip rate data on a rolling 4-week basis. We welcome your comments on if you find this valuable and feedback on how we present this data.

Weekly Average w/e	Offers - All BM	Offers - PSA	Bids - All BM	Bids - PSA
27/04	7%	34%	17%	42%
04/05	14%	36%	11%	52%
11/05	7%	41%	35%	43%
18/05	7%	41%	23%	38%

Monthly Average	Offers - All BM	Offers - PSA	Bids - All BM	Bids - PSA
January	19%	37%	12%	53%
February	17%	37%	5%	50%
March	17%	33%	7%	48%
April	13%	43%	18%	45%
May (MTD)	9%	37%	20%	42%



Slides and recordings from the Forum on 1st May are now available on the skip rate website.

box.SkipRates@nationalenergyso.com

Skip rate data and more info on skip rates and battery storage including methodology.

w/e 18th May: Very few bid system actions over the week which causes All BM and PSA to be very close. Solar forecasting errors on Thursday caused a significant increase in offer volume and constraints on Sunday in the north due to wind have caused the increase in difference between PSA and All BM bid skip rate.

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PSA: Post System Action

Data Alignment Changes

We identified some inconsistencies in the published datasets caused by design decisions. Now that we have several months of data, we can see that these decisions are unhelpful as they mean it is not possible to calculate skip rate by fuel type. We have corrected these inconsistencies, and the new datasets were published on Friday 16th May. Please see below a comparison of the numbers.

Before alignment

Monthly Average	Offers - All BM	Offers - PSA	Bids - All BM	Bids - PSA
January	18%	34%	11%	53%
February	15%	33%	5%	49%
March	15%	29%	7%	47%
April	12%	41%	19%	44%
May (MTD)	9%	33%	18%	42%

After alignment

Monthly Average	Offer - All BM	Offer - PSA	Bids - All BM	Bids - PSA
January	19%	37%	12%	53%
February	17%	37%	5%	50%
March	17%	33%	7%	48%
April	13%	43%	18%	45%
May MTD	9%	37%	20%	42%

The updated data indicates that the differences in offer and bid rates are minor, typically ranging by a few percentage points. These adjustments have improved the accuracy of the data without impacting previous trends and analyses. As a result, the industry's insights remain consistent with past evaluations, while ensuring ongoing reliability.

These inconsistencies have been corrected to align with operational behaviour:

- Treatment of marginal units -> lower skipped volume
- Capping accepted volume at MIL/MEL -> reduces imbalance requirement
- Increasing feasible volume to accepted volume where accepted > feasible -> increases feasible volume

These changes slightly reduce the imbalance requirement and increase the feasible volume, which means less units are needed to meet the imbalance requirement, and the marginal price is lower. These updates have changed the skipped volume, reduced the in-merit volume and resulted in an increase in skip rate.

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Previously Asked Questions

Q: (14/05/2025) Last week you said France did not trade with GB for a week after the Spanish incident. I still don't understand under what rules they can do that. The recording you suggested did not clarify much!

A: The dates covered in the deep dive were the weekend before the incident in Spain (26/27 April) and was not related. There are no rules around market trading in the Interconnector Operating Protocols and this situation did not fall outside the normal processes for commercial cross border energy trades. System Operators (SOs) will always take actions to assist connected SOs and avoid actions that would exacerbate issues on the connected system where possible. We were able to manage the GB system with tools/actions that did not involve trading over the French interconnectors.

Previously Asked Questions

Slido code #OTF

Q: (14/05/2025) Recently several actions have been taken by the NESO CCR that have clearly been out of merit (i.e for system) that have not been flagged such as a bid off yesterday, although these are normally changed later, this non flagging has a real time impact on wholesale prices, why doesn't this improve?

A: The NESO ENCC often takes a series of many complex actions in short periods of time, that can result in energy/system mis-tagging. We have a team that analyses the actions and amends any identified actions that were wrongfully tagged system or energy. But we appreciate that this often takes time. If you identify any that you believe were wrongfully tagged, we welcome anyone raising those to the box.nc.customer@nationalenergyso.com email.

When the tagging process is updated through a future OBP deployment, we don't expect these errors to occur.

Previously Asked Questions

Slido code #OTF

Q: (14/05/2025) Appreciate you cannot comment on individual situations, but can you comment on the methodology behind turning 1 unit off vs bringing 2 equivalent units to Stable Export Limit (SEL). In the case yesterday, it ended up costing more as there was a need for additional generation within the tuned off unit's Minimum Zero Time (MZT)?

A: The NESO control engineers will always work to meet the requirements of operating the GB system at best value to the customer. In addition to balancing the energy supply and demand, they are ensuring the system is safe and secure by managing a number of other system characteristics. A decision about which units to instruct may be taken to resolve one or more of the following: balancing, frequency, voltage. Inertia, stability, resilience.

These decisions are made using the information available at the time, however as the real time situation evolves it is sometimes necessary to make what appears to be a very different even contradictory decision.

If you would like us to look into this very specific set of actions, please provide the Unit IDs and relevant Settlement Periods to: box.nc.customer@nationalenergyso.com

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Previously Asked Questions

Slido code #OTF

Q: (14/05/2025) On the 27th of April, NESO curtailed the BN cable and marked the reason "System Security". This was a Sunday evening which felt nothing like a chance of security issue, and plenty of cable of cable the other way to reverse through the market. What's the methodology for assessing System Security?

A: There can be system security issues at any time of day and any day of the week. We manage these issues in accordance with the Security and Quality of Supply Standards (SQSS), which we must operate to at all times and this will drive our actions.

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Advanced Questions

Slido code #OTF

Q: (13/05/2025) The DRESHEX1 boundary has 12x400kV circuits at its boundary and the network congestion slides presented at the OTF has a max capacity of 9675MW i.e. ~800MW/circuit. By comparison, B7- SSHARN3 has 5x400KV and 2x275kV circuits and a max capacity of 9850MW i.e. ~1400MW/circuit. Can NESO explain this difference?

A: Boundary capacity is influenced by both the number of circuits and the ratings of the lines. The calculation of maximum capacity takes into account the N-2 contingency. Furthermore, generation and demand within and near the boundary can impact its capacity. It's also noteworthy that the flow at the SSHARN3 boundary is affected by an HVDC connection, in addition to the AC lines.

The circuits that the DRESHEX boundary crosses include a large amount of power flow from north to south. The north to south power flows enters and exits the DRESHEX boundary using the circuit capacity but do not contribute to the DRESHEX boundary transfer capacity as it doesn't serve the export of power from within the boundary. This is a feature of the semicircular shaped boundaries like DRESHEX, GMSNOW and EC5 and can make them ineffective for capturing constraints. i.e. an overloaded circuit south from Keadby could be relieved with reduced generation within DRESHEX or further north. If B7 was also constrained, it may be more cost effective to reduce generation above B7 than DRESHEX.

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Advanced Questions

Slido code #OTF

Q: (13/05/2025) The DRESHEX data was published in the OTF following a question (no. 2668) on 12 March 2025. How long has the DRESHEX boundary existed, i.e. when was it identified?

A: B8 has existed for at least 20 years. Currently, we focus primarily on the major and standard constraints rather than providing all system boundaries. Including all active boundaries would require 2-3 times the number of slides. The boundaries we present at OTF illustrate the major and most crucial boundaries or pinch points on the network, offering a general overview of the system's status. During our recent review of the OTF, we decided to add two more boundaries, as these have become significant due to changes in demand, generation, and network topology.

Advanced Questions

Slido code #OTF

Q: (13/05/2025) How are the maximum capacities of boundaries (e.g. DRESHEX, SHHARN) shown in the OTF calculated? Can you point us to that information?

A: The maximum capacity indicates the true maximum potential of a boundary when the network surrounding it is completely intact, factoring in an N-2 contingency. The boundary capacity is calculated annually, taking into account any changes that might affect boundary flows, such as available inter-trips or network upgrades.

Q: (13/05/2025) The OTF publishes constraint cost (voltage, thermal, inertia) on a daily basis. Could NESO please publish Thermal Constraints volumes (and costs) by boundary?

A: Thank you for your inquiry about publishing Thermal Constraints volumes and costs by boundary. We are actively working on expanding our published datasets to include this information. However, the process will take some time as we address various technical aspects.

We appreciate your patience and understanding. Please feel free to reach out to box.nc.customer@nationalenergyso.com with any further questions.

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Advanced Questions

Slido code #OTF

Q: (13/05/2025) Why are OTF boundaries that impact the operation of the market, connection of plant and investment needs not shown in the Electricity Ten Year Statement (ETYS)?

A: The majority of the OTF boundaries align with those in ETYS but as short-term operations tend to focus on immediate constraints and sometimes short-lived constraints the OTF boundaries tend to be more dynamic and flexible. As the ETYS has to cover long term planning beyond ten years and be comparable to previous publications, the ETYS boundaries rarely change.

The analysis for the ETYS boundaries extends beyond the circuits that directly cross the boundary to ensure that the whole transmission network is covered. The ETYS also has additional boundaries not included in the OTF. The constraints from GMSNOW and DRESHEX are covered by the B8 and NW boundaries in ETYS.

Many years ago, NESO used some additional East coast boundaries to try and capture the constraints in that area , but we found that they were not very effective to capture long term constraints due to interaction with the north-south power flows. Explained more in Q3 response below. Some of the old East Cost boundaries can still be seen in the old ETYS publications.
https://www.neso.energy/document/46886/download

Advanced Questions

Slido code #OTF

Q: (13/05/2025) The ETYS states "The Electricity Ten Year Statement (ETYS) is NESO's view of future transmission requirements and the capability of Great Britain's National Electricity Transmission System (NETS) over the next ten years. The ETYS is important in helping us to understand where investment and development are needed to help us achieve our net zero ambitions." Would NESO agree that the ETYS is not always achieving this aim as boundaries such as DRESHEX are not mentioned in the current ETYS, let alone identified ten years ago?

A: The boundaries are a compromise to simplify the representation of the transmission network and allow practical calculation of constraints. As the network changes, the boundaries should move around to best capture the constraints or even better to not have boundaries and look at the individual circuit and node constraints. While the current boundary approach is a compromise, it is still an effective tools and NESO believe it serves its purpose to correctly capture most of the network constraints. We are continuing to investigate new ways of working to improve network operation and planning. While we still use boundaries, they will be kept under review.

Outstanding Questions

Slido code #OTF

Q: (02/04/2025) When you do an emergency return to service why do you not notify the market of what is returning? It would be useful to know at least the impacted region - gencos need to manage TCLC obligations.

Q: (09/04/2025) We noticed several periods last week (e.g. SP23 on 06/04) where many of the wind bids were not SO-flagged. From what we can tell, they seemed to be taken for system reasons. Could you please clarify whether they were taken for system reasons or not? and if we can expect this behaviour to continue?

Q: (30/04/2025) For BMU's with no dynamic data submitted (e.g. some solar sites) how does the OBP / control room know they're dispatchable and what MZT's are? There have been instances of solar turn off with no data visible on Elexon insights.

Reminder about answering questions at the NESO OTF

Slido code #OTF

- **Questions from unidentified parties will not be answered live**. If you have reasons to remain anonymous to the wider forum, please use the advance question or email options. Details in the appendix to the pack.
- **The OTF is not the place to challenge the actions of individual parties** (other than the NESO), and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: marketreporting@nationalenergyso.com
- **Questions will be answered in the upvoted order whenever possible**. We will take questions from further down the list when: the answer is not ready; we need to take the question away or the topic is outside of the scope of the OTF.
- **Slido will remain open until 12:00**, even when the call closes earlier, to provide the maximum opportunity for you to ask questions.
- **All questions will be recorded and published** All questions asked through Sli.do will be recorded and published, with answers, in the Operational Transparency Forum Q&A on the webpage: https://www.neso.energy/what-we-do/systems-operations/operational-transparency-forum
- **Takeaway questions** – these questions will be included in the pack for the next OTF, we may ask you to contact us by email in order to clarify or confirm details for the question.
- **Out of scope questions** will be forwarded to the appropriate NESO expert or team for a direct response. We may ask you to contact us by email to ensure we have the correct contact details for the response. These questions will not be managed through the OTF, and we are unable to forward questions without correct contact details. Information about the OTF purpose and scope can be found in the appendix of this slide pack

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Slido code #OTF

Feedback

Please remember to use the feedback poll in Sli.do after the event.

We welcome feedback to understand what we are doing well and how we can improve the event for the future.

If you have any questions after the event, please contact the following email address: box.nc.customer@nationalenergyso.com

NESO National Energy System Operator

slido

Audience Q&A

ⓘ Start presenting to display the audience questions on this slide.

Appendix

Purpose and scope of the NESO Operational Transparency Forum

Slido code #OTF

Purpose:

The Operational Transparency Forum runs once a week to provide updated information on and insight into the operational challenges faced by the control room in the recent past (1-2 weeks) and short-term future (1-2 weeks). The OTF will also signpost other NESO events, provide deep dives into focus topics, and allow industry to ask questions.

Scope:

Aligns with purpose, see examples below:

In Scope of OTF

Material presented i.e.: regular content, deep dives, focus topics
NESO operational approach & challenges
NESO published data

Out of Scope of OTF

Data owned and/or published by other parties
e.g.: BMRS is published by Elexon
Processes including consultations operated by other parties e.g.: Elexon, Ofgem, DESNZ
Data owned by other parties
Details of NESO Control Room actions & decision making
Activities & operations of particular market participants
NESO policy & strategic decision making
Formal consultations e.g.: Code Changes, Business Planning, Market development

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Managing questions at the NESO Operational Transparency Forum

Slido code #OTF

- OTF participants can ask questions in the following ways:
  - Live via Slido code #OTF
  - In advance (before 12:00 on Monday) at https://forms.office.com/r/k0AEfKnai3
  - At any time to box.nc.customer@nationalenergyso.com

- **All questions asked through Sli.do** will be recorded and published, with answers, in the Operational Transparency Forum Q&A on the webpage: Operational Transparency Forum | NESO
- **Advance questions** will be included, with answers, in the slide pack for the next OTF and published in the OTF Q&A as above.
- **Email questions** which specifically request inclusion in the OTF will be treated as Advance questions, otherwise we will only reply direct to the sender.
- **Takeaway questions** – we may ask you to contact us by email in order to clarify or confirm details for the question.
- **Out of scope questions** will be forwarded to the appropriate NESO expert or team for a direct response. We may ask you to contact us by email to ensure we have the correct contact details for the response. These questions will not be managed through the OTF, and we are unable to forward questions without correct contact details. Information about the OTF purpose and scope can be found in the appendix of this slide pack.

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Skip Rates – 'In Merit' datasets

Slido code #OTF

We recognise that these datasets aren't as intuitive as they could be – specifically the column headings. Please be reassured that we are looking at ways to improve this - we will update the documentation to include this information and will also discuss the datasets in more detail at the webinar on 27th February.

We will use 'accepted' and 'instructed' differently in this context, even though they are normally the same.

These datasets show the units that should have been instructed if decisions were solely based on price, rather than all units that were instructed. Therefore this dataset does not match the total accepted volume datasets in Elexon.

In Merit Volume = Accepted Volume + Skipped Volume

In Merit Volume
- This is the recreated in merit stack showing the lowest cost units that were available to meet the requirement, where the requirement is based on the volume of units that were actually instructed
- Therefore this is the volume that should have been accepted if decisions were solely based on price
- The sum of this column is the total instructed volume in the 5 minute period (subject to the relevant exclusions)

Accepted Volume
- This is the volume that was accepted in merit, as a subset of the 'In Merit Volume' column – i.e. how much volume was accepted in merit
- The sum of this column will be less than the sum of the 'In Merit Volume' column, unless there is no skipped volume
- Note: this column does not list all instructed units

Skipped Volume
- This is the volume that was skipped, as a subset of the 'In Merit Volume' column – i.e. of the volume that we should have instructed, how much was skipped

It's possible that the list of units increases, decreases, or stays the same between stages, but the total 'In Merit Volume' will always remain the same (or no volume is excluded) or decrease (due to exclusions).

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