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- Click 'Turn on live captions'

ESO Operational Transparency Forum

10 April 2024

## 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 ESO) and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: [marketreporting@nationalgrideso.com](mailto:marketreporting@nationalgrideso.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@nationalgrideso.com](mailto:box.NC.customer@nationalgrideso.com)

**Stay up to date on our webpage:** <https://www.nationalgrideso.com/OTF> (OTF Q&A is published with slidepacks)

## Future deep dive / focus topics

### Today

10th April 2024 – Operations over Easter weekend

### Future

17<sup>th</sup> April 2024 – Overview of ESO's assessment of Scheduling and Dispatch in REMA

If you have suggestions for future deep dives or focus topics please send them to us at: [box.NC.customer@nationalgrideso.com](mailto:box.NC.customer@nationalgrideso.com) and we will consider including them in a future forum

# Frequency Roadshows

We welcome industry to attend our frequency response/reserve roadshows which will be held in London and Edinburgh. These will be drop in sessions where we will have SMEs from across the response and reserve teams available to answer any questions you may have or discuss any topics that might interest you. There will be a presentation from the team at 11:30am then again at 2:00pm where we will discuss some of our key updates. We also invite you to join us for lunch which will be served at the venue at 12:30pm.

Details of each of the events are below and we welcome you to fill out the survey at the bottom of this slide to register your interest and highlight any key topics that you may wish to discuss.

## London Roadshow:

25<sup>th</sup> April 2024

9:30am – 4:00pm

DoubleTree by Hilton Hotel  
London – West End  
92 Southampton Row  
London  
Greater London  
WC1B 4BH

## Edinburgh Roadshow:

1<sup>st</sup> May 2024

9:30am – 4:00pm

Novotel Edinburgh Centre  
80 Lauriston Place  
Edinburgh  
EH3 9DE

Please fill out the following form to let us know you will be attending: <https://forms.office.com/r/AYErjPT4Ab>

If you cannot make these in person events but would like to talk to the team then please make this clear on the form or contact box. [futureofbalancingservices@nationalgrideso.com](mailto:futureofbalancingservices@nationalgrideso.com)

# Reserve Reform – Quick Reserve

- Following recent industry engagement we have now completed our proposed Service and Procurement Design for Quick Reserve which is available on our [website](#) for your review.
- We are keen to get your further feedback ahead of our planned Article 18 industry consultation later in April 2024.
- We've provided a feedback form and are also offering 1-2-1 sessions during early April – to request a slot please reach out via [box.futureofbalancingservices@nationalgrideso.com](mailto:box.futureofbalancingservices@nationalgrideso.com).

# Operational Separation Cutover - Billing System Changes

System Outage	What this means to you and your business	Direct questions to email below
TNUoS	No impact. Invoices will be raised as normal for May Variable Direct Debit customer collections will be delayed until restoration of system	<a href="#">Contact here</a>
Connections	No impact. Invoices will be raised as normal for May Variable Direct Debit customer collections will be delayed until restoration of system	<a href="#">Contact here</a>
BSUoS	The last run of BSUoS will be the 25th April. The next run is expected to be 21st May	<a href="#">Contact here</a>
AAHEDC (Hydro)	Invoices will be raised in advance with payment date reflecting the standard due date	<a href="#">Contact here</a>
Settlement providers	Payments will be made earlier than the current published payments calendar. May payments will be made in line with the current billing calendar	<a href="#">Contact here</a>
App Fees	Invoices will be raised before outage if applicable and manually via offline process should this be required	<a href="#">Contact here</a>

As we approach our new role as National Energy System Operator (NESO) this summer, there will be a requirement to update our billing systems. This means that there will be an outage from **26<sup>th</sup> April to 21<sup>st</sup> May 2024**.

During this we will not be able to produce or send billing information and invoices during this period.

We will share more detailed communications regarding this, including the revised BSUoS calendar shortly.

## GB NTC Calculation Policy now published

- ESO has published the GB NTC Calculation Policy on our website, as was discussed as part of the NTC Commercial Compensation Methodology approved in September 2023.
- This document outlines the policy for the operational calculation of interconnector capacity restrictions set by ESO achieved through Net Transfer Capacity (NTC) processes in coordination with external interconnector parties and other System Operators interconnected to GB.
- The document can be found in our publications library here: [Publications library | ESO \(nationalgrideso.com\)](#), or directly through this link: [download \(nationalgrideso.com\)](#).
- Also links with the Interconnectors deep-dive at the OTF on 8<sup>th</sup> March 2023 (slides: [PowerPoint Presentation \(nationalgrideso.com\)](#) & recording: [OTF 08.03.23 \(brightcove.net\)](#))



## ***Deep Dive: Operations over Easter weekend (and beyond) - Dan Auty***

### *Easter Weekend Operations:*

- Strategy
- Transmission
- Energy

### *Weekend 5/6/7 April Operations*

### *General observations and market opportunity*

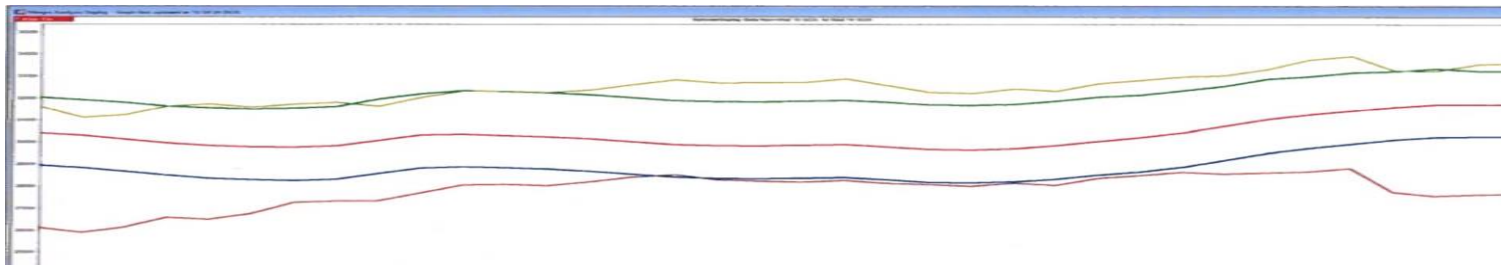
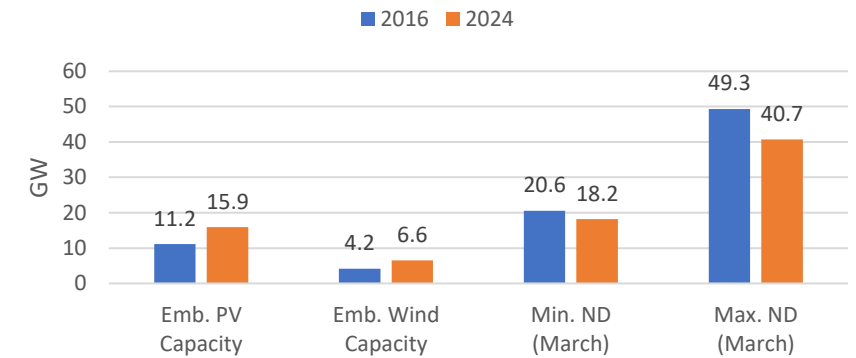
*Please submit questions on both weekends via SLI.DO #OTF*



## Easter weekend operations: *strategy*

<b>Aim:</b>	<b>Produce an accurate System Operating Plan to cover forecast uncertainties delivering consumer value</b>
Challenge 1	<ul style="list-style-type: none"> <li><b>Profile date dilemma and demand forecast uncertainty</b></li> </ul>
Challenge 2	<ul style="list-style-type: none"> <li><b>Unsettled weather and weather forecast errors</b></li> </ul>
Challenge 3	<ul style="list-style-type: none"> <li><b>Downward Margin</b></li> </ul>

Changing system - 2016 vs 2024



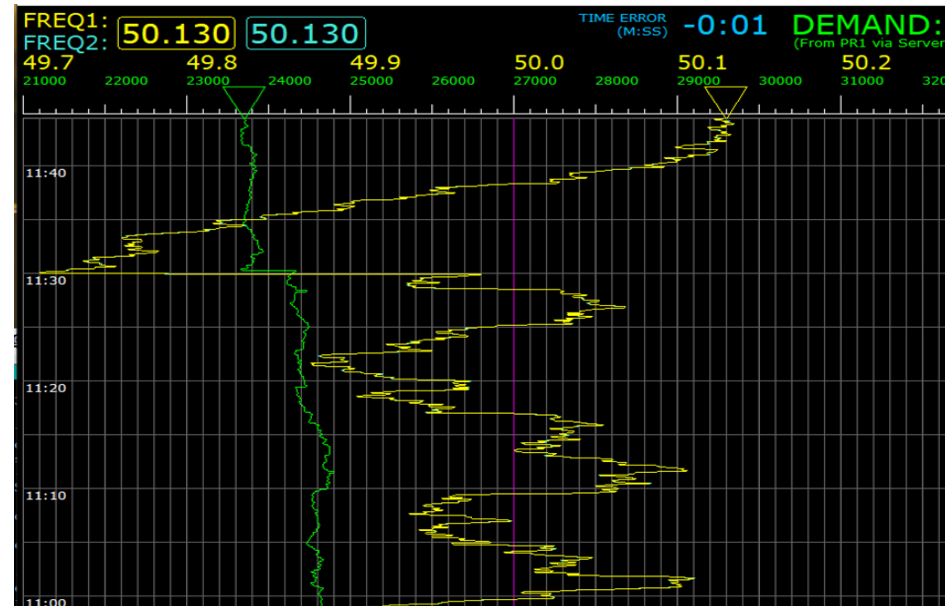
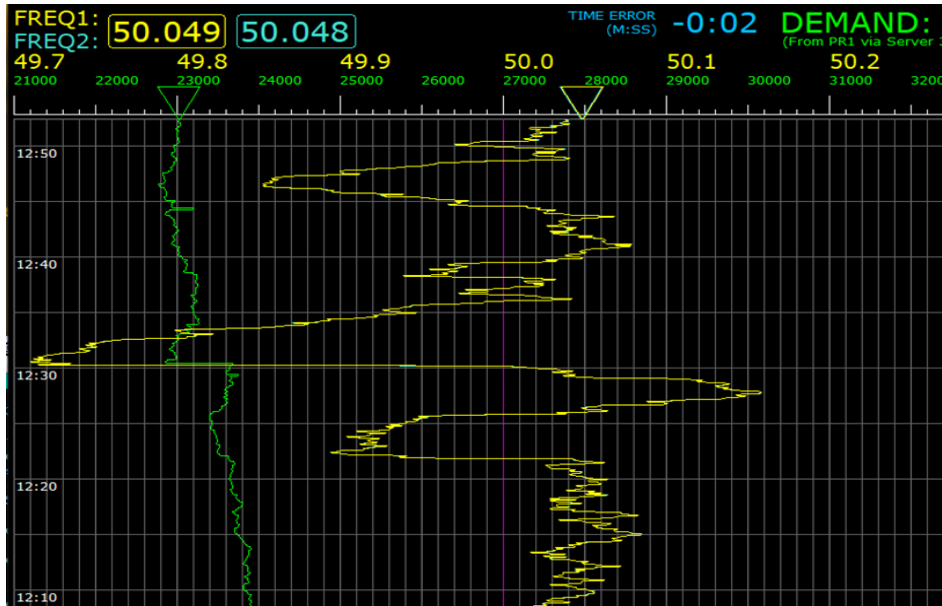
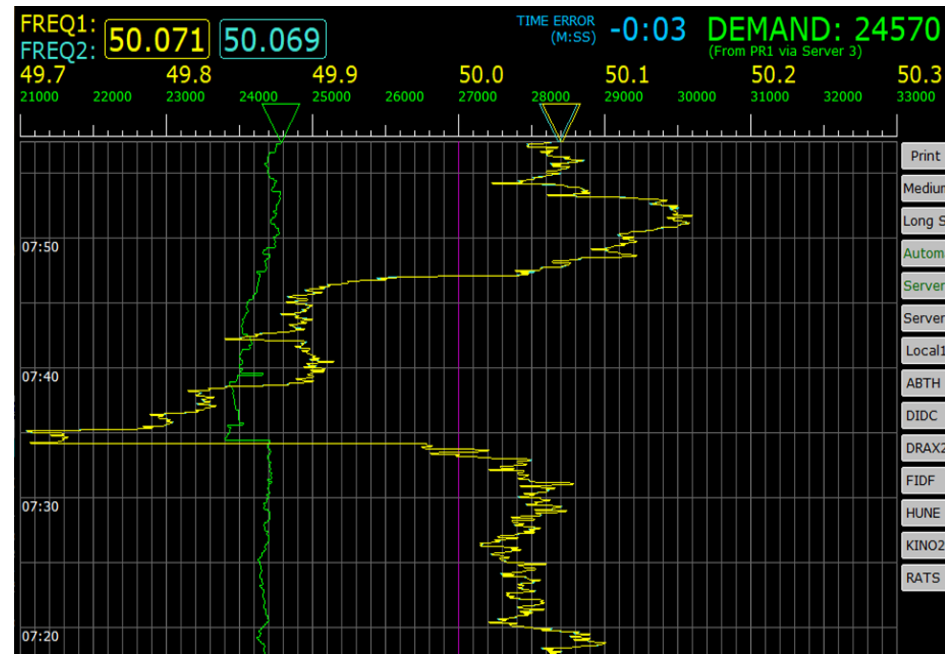
## Easter weekend operations: *transmission*

Aim:	Maintain a secure network with security standards for thermal voltage and stability met at all times	Key message to stakeholders
Challenge 1	<ul style="list-style-type: none"><li>• <b>Voltage Control</b></li></ul>	<b>Maintain high availability of voltage control equipment</b> <b>Thanks to generators providing flexibility</b>
Challenge 2	<ul style="list-style-type: none"><li>• <b>Transmission Faults</b></li></ul>	<b>Maintain high availability of protection systems</b> <b>Ensure contingency working arrangements at all times</b>
Challenge 3	<ul style="list-style-type: none"><li>• <b>Unplanned transmission outages</b></li></ul>	<b>Ensure contingency working arrangements at all times</b> <b>Maintain good liaison throughout outage and return</b>

# Easter weekend operations: *energy*

**Aim:** Maintain frequency within operational standards at all times

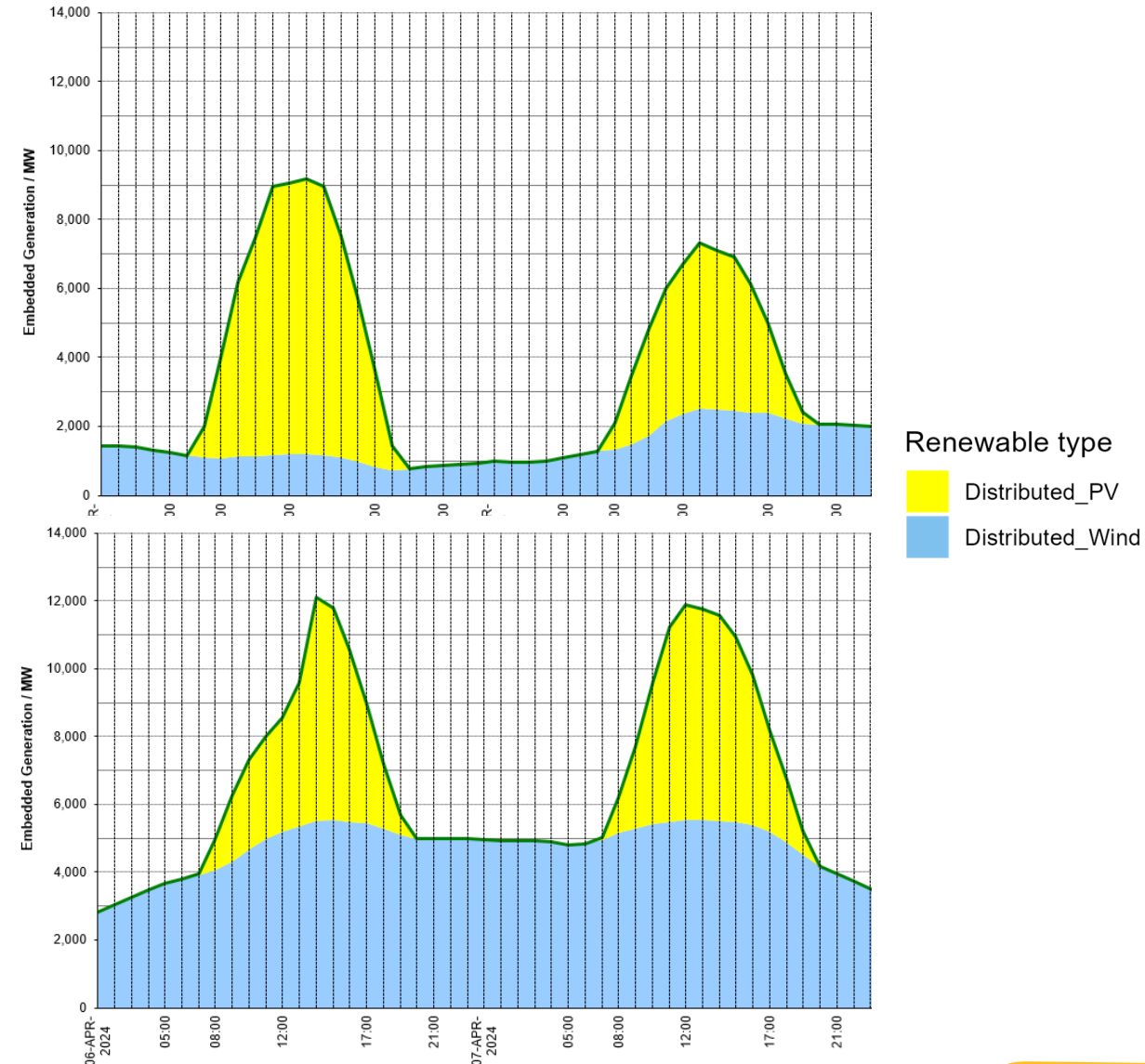
Frequency traces demonstrating effect of loss of large infeed, all within a single morning shift's timeline.



# Last weekend's (6 – 7 April) operational view

<p><b>Challenge 1</b></p>	<p><b>Comparison of renewable generation last Sat and Sunday v previous weekend (Easter) shown on graphs opposite</b></p>
<p><b>Challenge 2</b></p>	<p>Whole of Europe predicted extremely high renewables and in the event several TSO reported issues with downward margins going into alert on EAS (European Awareness System)</p>
<p><b>Challenge 3</b></p>	<p>Day ahead trading prices were negative for sustained periods leading to certain market behaviours with some unforeseen circumstances</p>

<p><b>Fri 5 April</b></p>	<p><b>Minimum Carbon Intensity</b></p>	<p><b>21g CO<sub>2</sub>/kWh</b></p>
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## Last weekend's operations, observations and potential opportunity

As expected, some windfarms withdrew their PNs according to particular CfD contracts coincidental with prolonged periods of negative pricing at Day Ahead stage.

Just a reminder that after this period of zero PN when re-instating normal operations we'd expect to see run up rates in line with usual dynamic parameters.

We appreciate these instances of negative pricing are rare however with a potential high renewable summer we'd also just like to point out under the CfD contracts other dynamic parameters will need to be followed such as MEL=0 implies no output and usual BOA arrangements can be utilised.

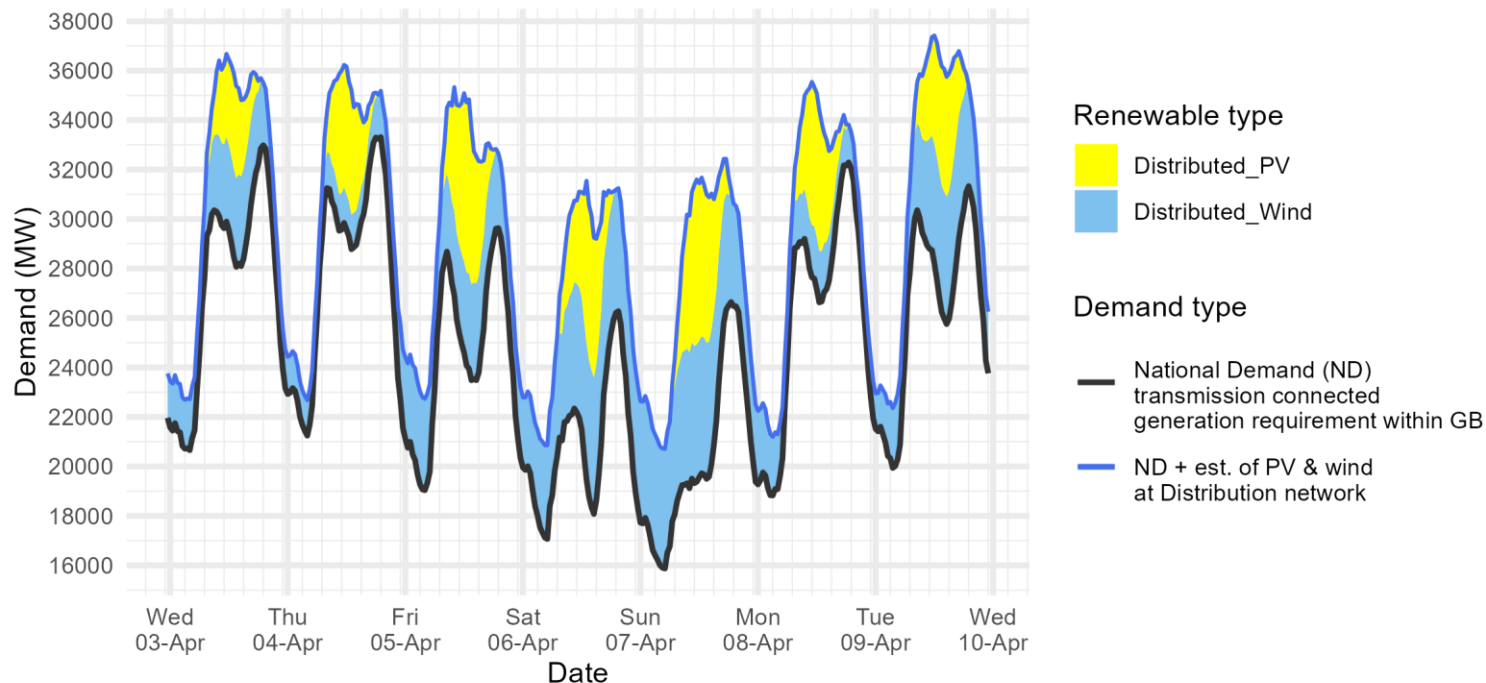
We also saw some available upward volume but at a prohibitive pricing of £9999/MWh leaving us with less flexibility than we'd like.

We'd like to offer confirmation that any volume offered on by ESO (following CfD) will be paid at the relevant offer price, so if we imagine the previous conditions from Easter weekend where we become unexpectedly short this offer volume if priced competitively could represent an opportunity to generators PN'd to zero under CfD.



# Demand | Last week demand out-turn

ESO National Demand outturn 03-09 April 2024



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

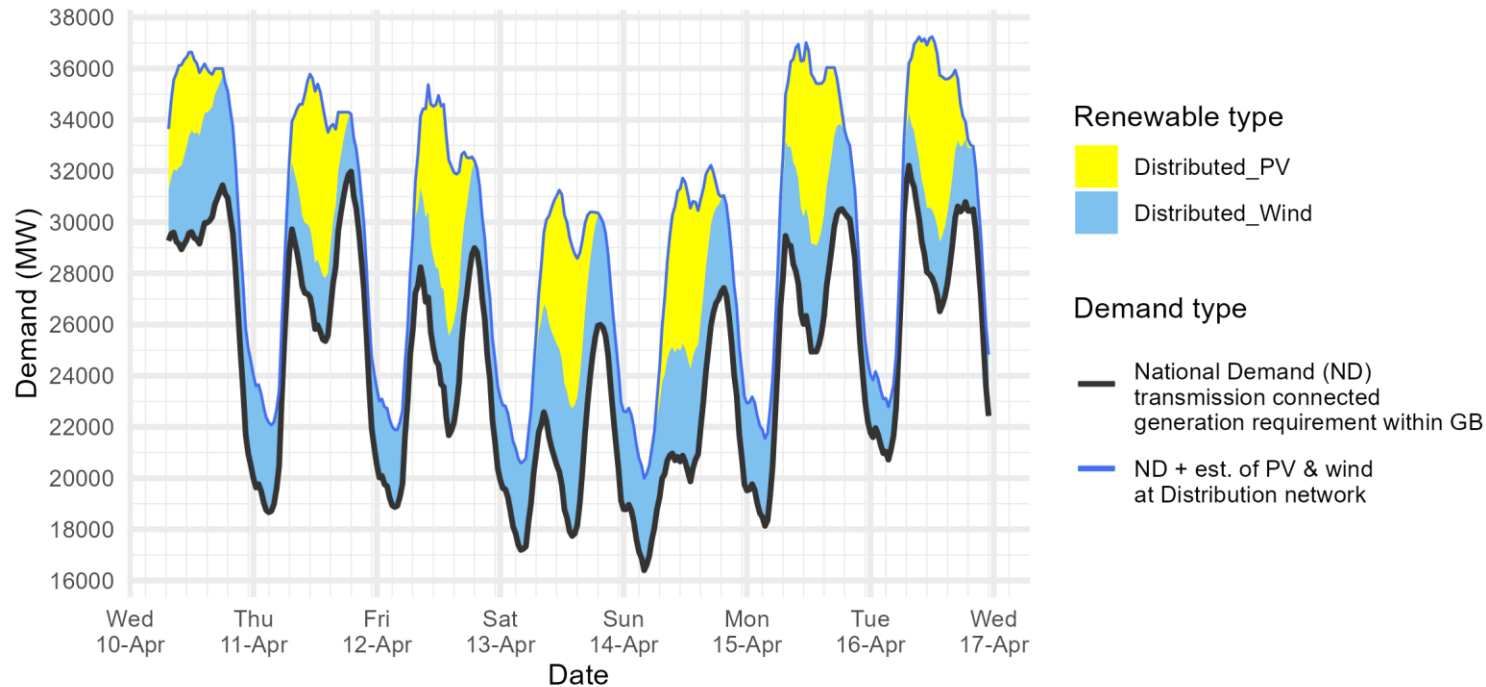
Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it **does not include** demand supplied by non-weather driven sources at the distributed network for which ESO has no real time data.

Historic out-turn data can be found on the [ESO Data Portal](#) in the following data sets: [Historic Demand Data](#) & [Demand Data Update](#)

Date	Forecasting Point	FORECAST (Wed 03 Apr)			OUTTURN		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
03 Apr	Afternoon Min	26.2	3.6	5.4	28.1	3.6	3.7
04 Apr	Overnight Min	21.0	1.4	0.0	21.2	1.4	0.0
04 Apr	Afternoon Min	27.8	1.5	5.1	28.8	1.4	5.0
05 Apr	Overnight Min	19.0	3.4	0.0	19.0	3.7	0.0
05 Apr	Afternoon Min	21.2	3.8	6.5	23.5	3.9	6.3
06 Apr	Overnight Min	16.9	4.0	0.0	17.1	3.8	0.0
06 Apr	Afternoon Min	16.2	5.3	6.2	18.1	5.5	5.7
07 Apr	Overnight Min	14.8	4.9	0.0	15.9	4.8	0.0
07 Apr	Afternoon Min	17.1	5.2	6.1	19.5	5.5	6.0
08 Apr	Overnight Min	17.8	3.0	0.0	18.8	2.4	0.0
08 Apr	Afternoon Min	24.6	2.8	5.0	26.6	2.1	5.7
09 Apr	Overnight Min	19.9	1.7	0.0	19.9	2.4	0.0
09 Apr	Afternoon Min	24.0	2.8	6.3	25.8	5.1	4.8

# Demand | Week Ahead

ESO Demand forecast for 10-16 April 2024



The black line (National Demand ND) is the measure of portion of total GB customer demand that is supplied by the transmission network.

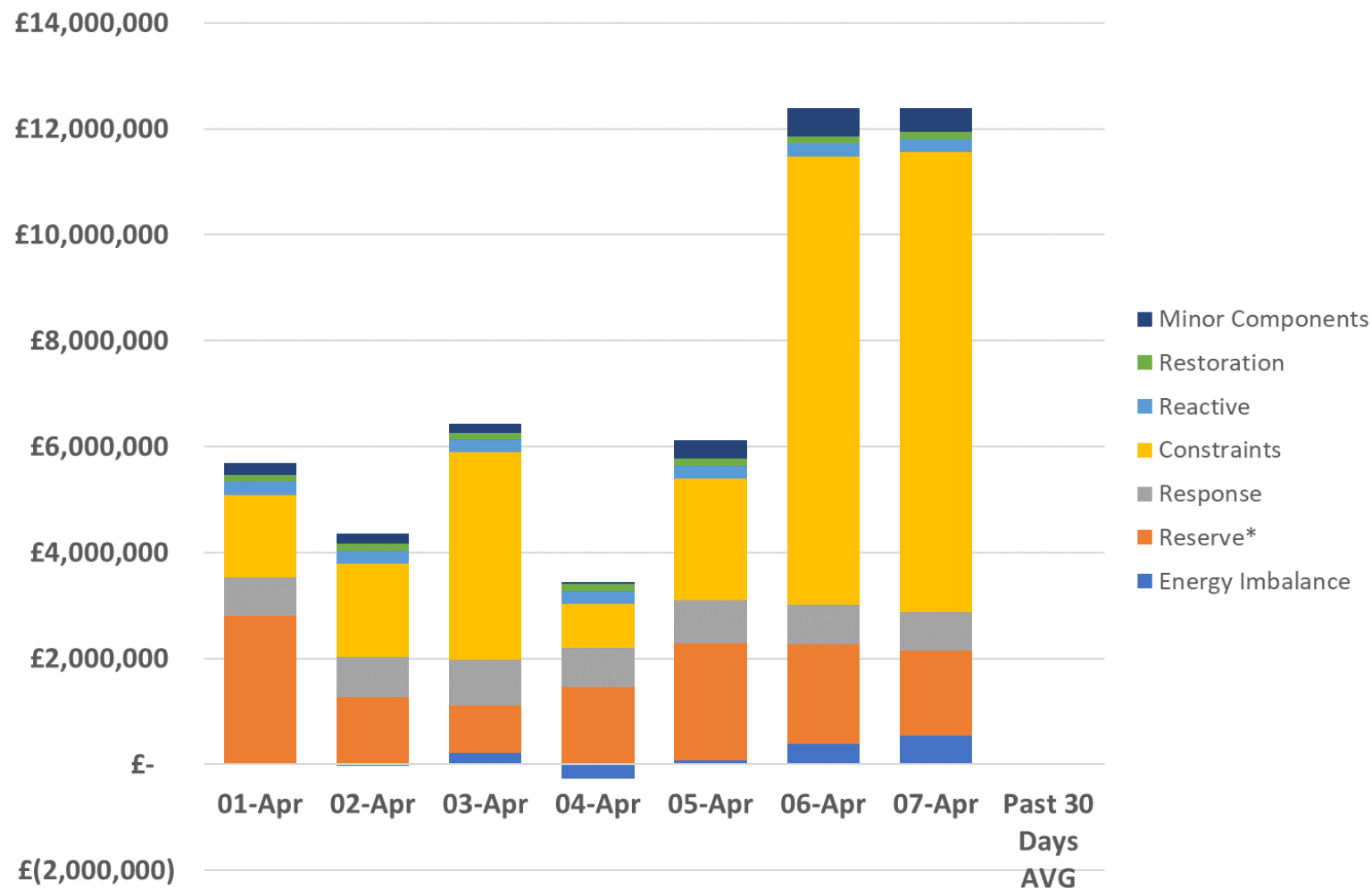
ND values **do not include** export on interconnectors or pumping or station load

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 ESO has no real time data.

Historic out-turn data can be found on the [ESO Data Portal](#) in the following data sets: [Historic Demand Data](#) & [Demand Data Update](#)

Date	Forecasting Point	FORECAST (Wed 10 Apr)		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
10 Apr 2024	Afternoon Min	29.2	4.2	2.4
11 Apr 2024	Overnight Min	18.7	3.5	0.0
11 Apr 2024	Afternoon Min	25.4	2.5	6.2
12 Apr 2024	Overnight Min	18.9	3.0	0.0
12 Apr 2024	Afternoon Min	21.7	3.9	6.9
13 Apr 2024	Overnight Min	17.2	3.4	0.0
13 Apr 2024	Afternoon Min	17.7	5.0	6.3
14 Apr 2024	Overnight Min	16.4	3.6	0.0
14 Apr 2024	Afternoon Min	19.9	4.4	6.3
15 Apr 2024	Overnight Min	18.1	3.4	0.0
15 Apr 2024	Afternoon Min	24.9	4.2	6.6
16 Apr 2024	Overnight Min	20.7	2.1	0.0
16 Apr 2024	Afternoon Min	26.5	2.7	6.5

## ESO Actions | Category costs breakdown for the last week



Date	Total (£m)
01/04/2024	5.7
02/04/2024	4.3
03/04/2024	6.4
04/04/2024	3.2
05/04/2024	6.1
06/04/2024	12.4
07/04/2024	12.4
<b>Weekly Total</b>	<b>50.5</b>
<b>Previous Week</b>	<b>37.1</b>

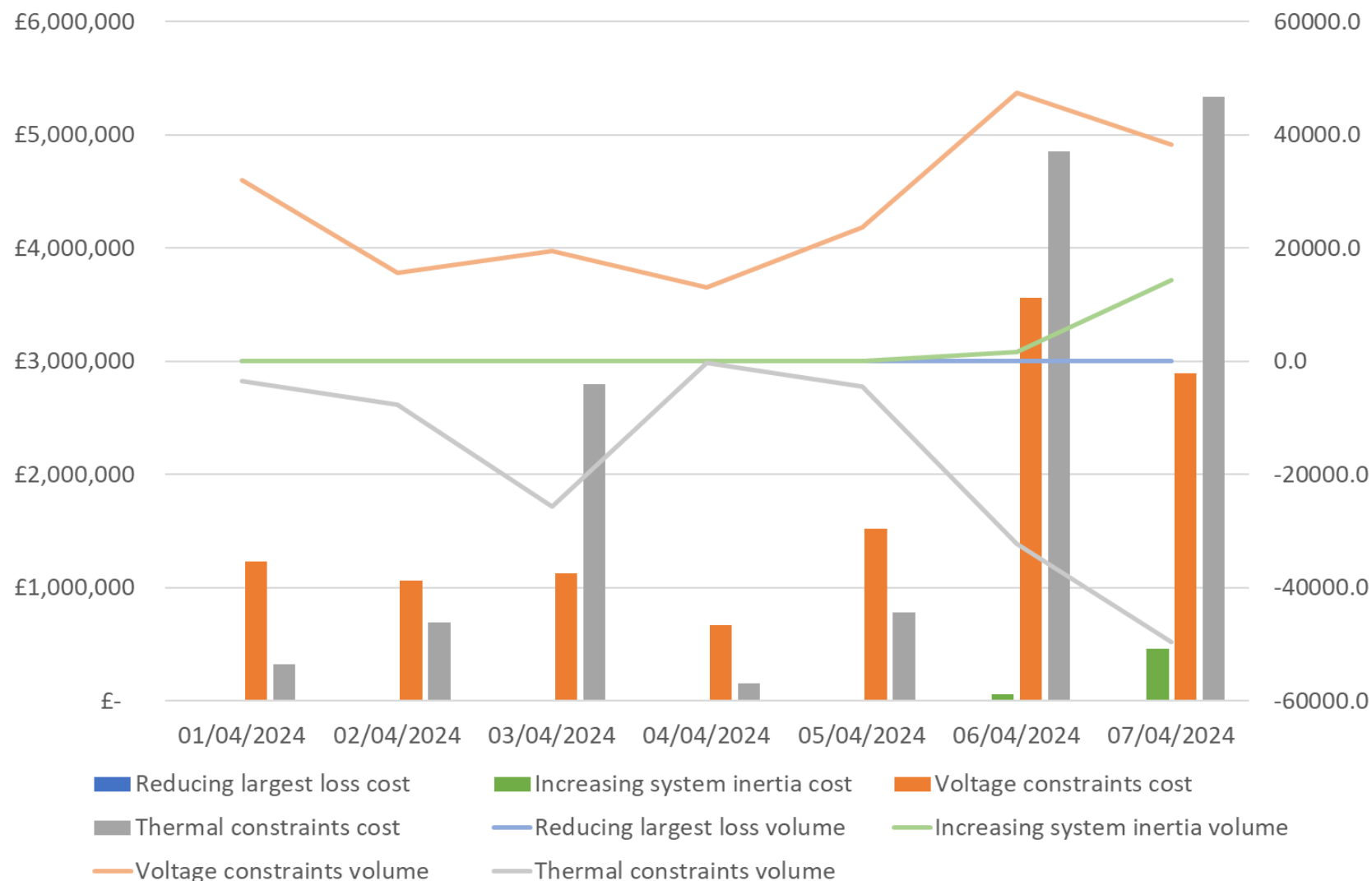
Constraints and Reserve costs were the key cost component for the week.

Please note that all the categories are presented and explained in the MBSS.

**Data issue:** Please note that due to a data issue on a few days over the last few months, the Minor Components line in Non-Constraint Costs is capturing some costs on those days which should be attributed to different categories. It has been identified that a significant portion of these costs should be allocated to the Operating Reserve Category. Although the categorisation of costs is not correct, we are confident that the total costs are correct in all months. We continue to investigate and will advise when we have a resolution.



# ESO Actions | Constraint Cost Breakdown



## Thermal – network congestion

Actions were required to manage thermal constraints throughout the week, with most significant costs on Sat & Sun.

## Voltage

Intervention was required to manage voltage levels throughout the week.

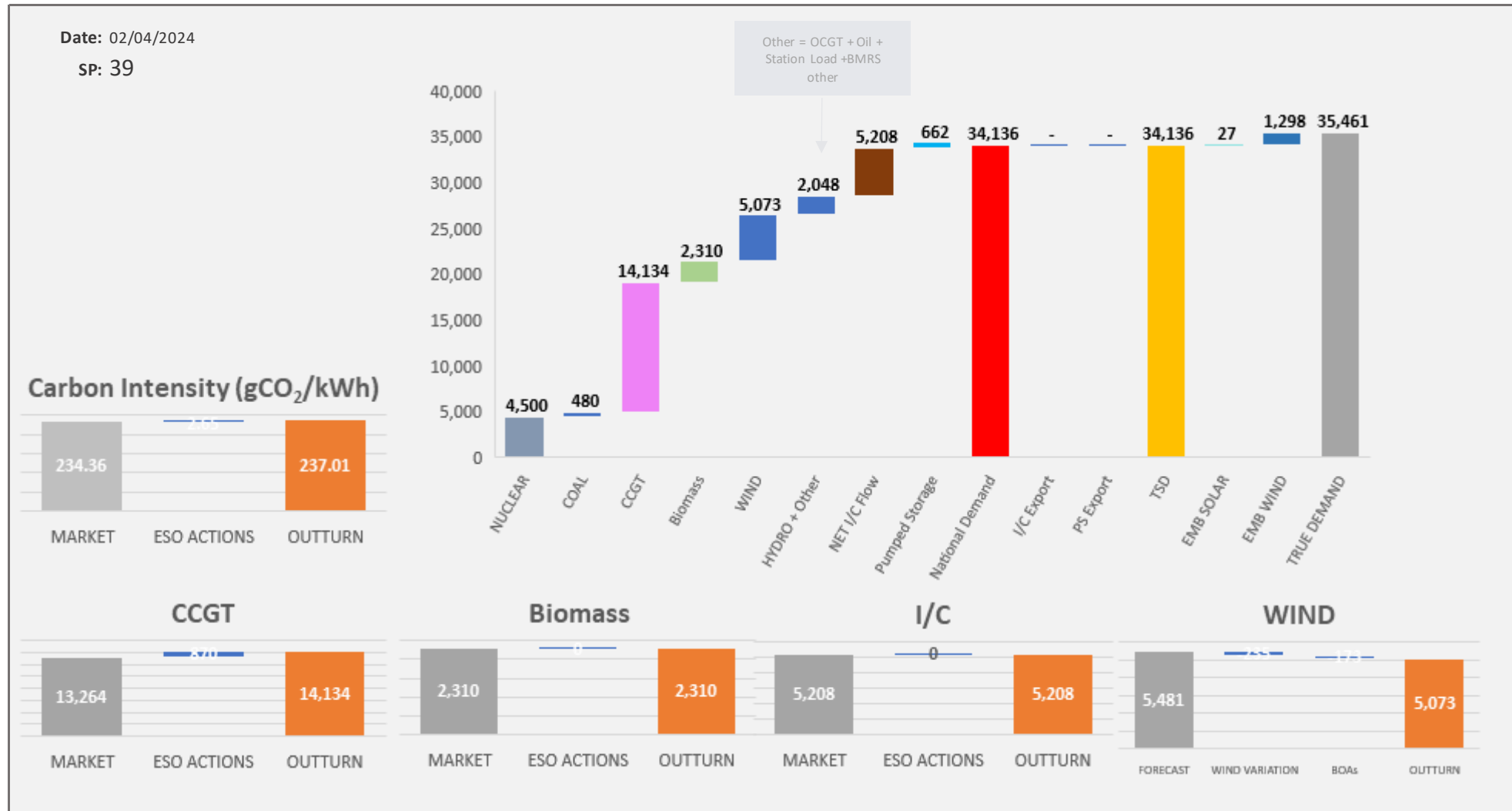
## Managing largest loss for RoCoF

No intervention was required to manage largest loss.

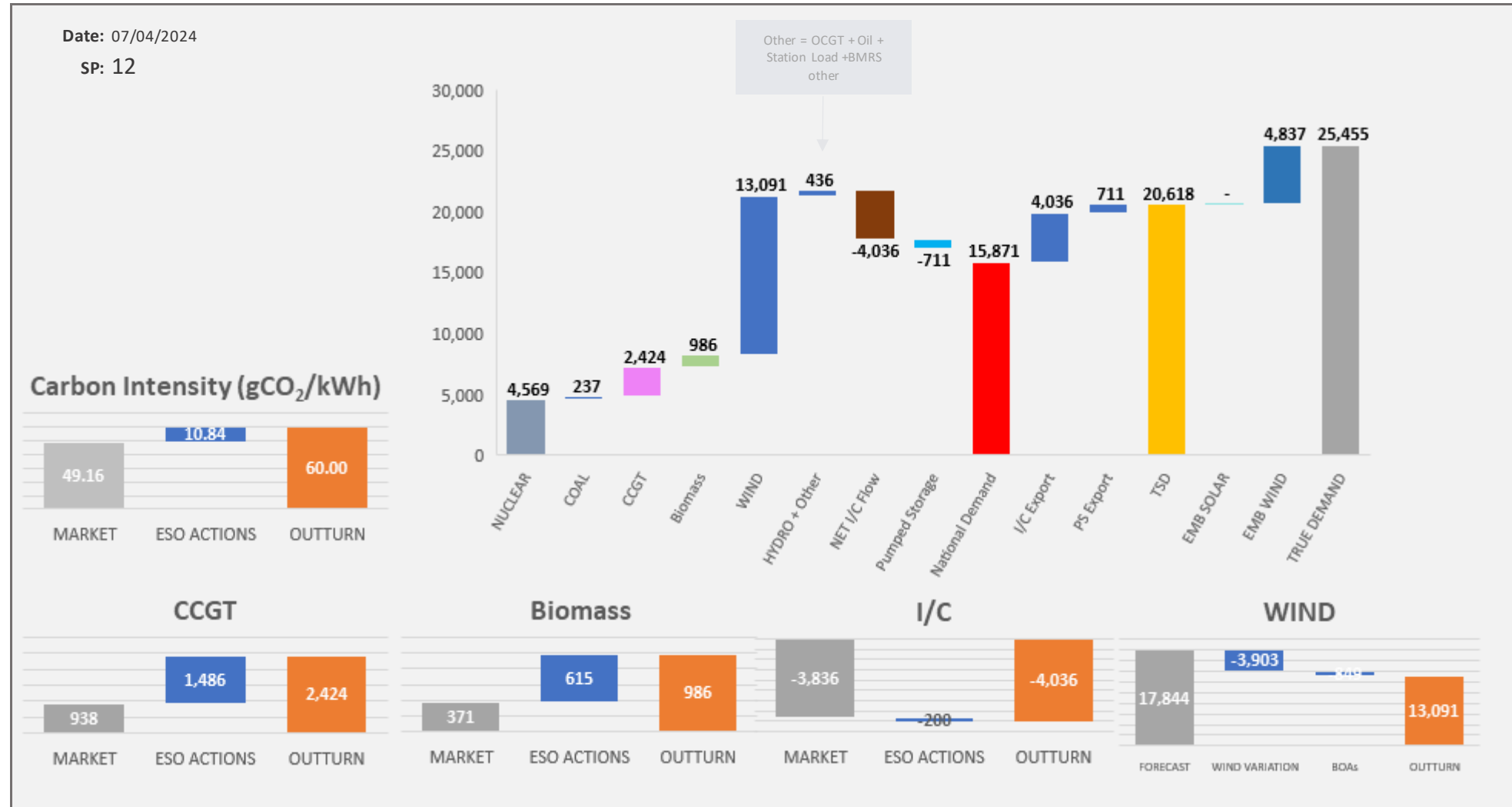
## Increasing inertia

Intervention was required to manage System Inertia on Sat & Sun.

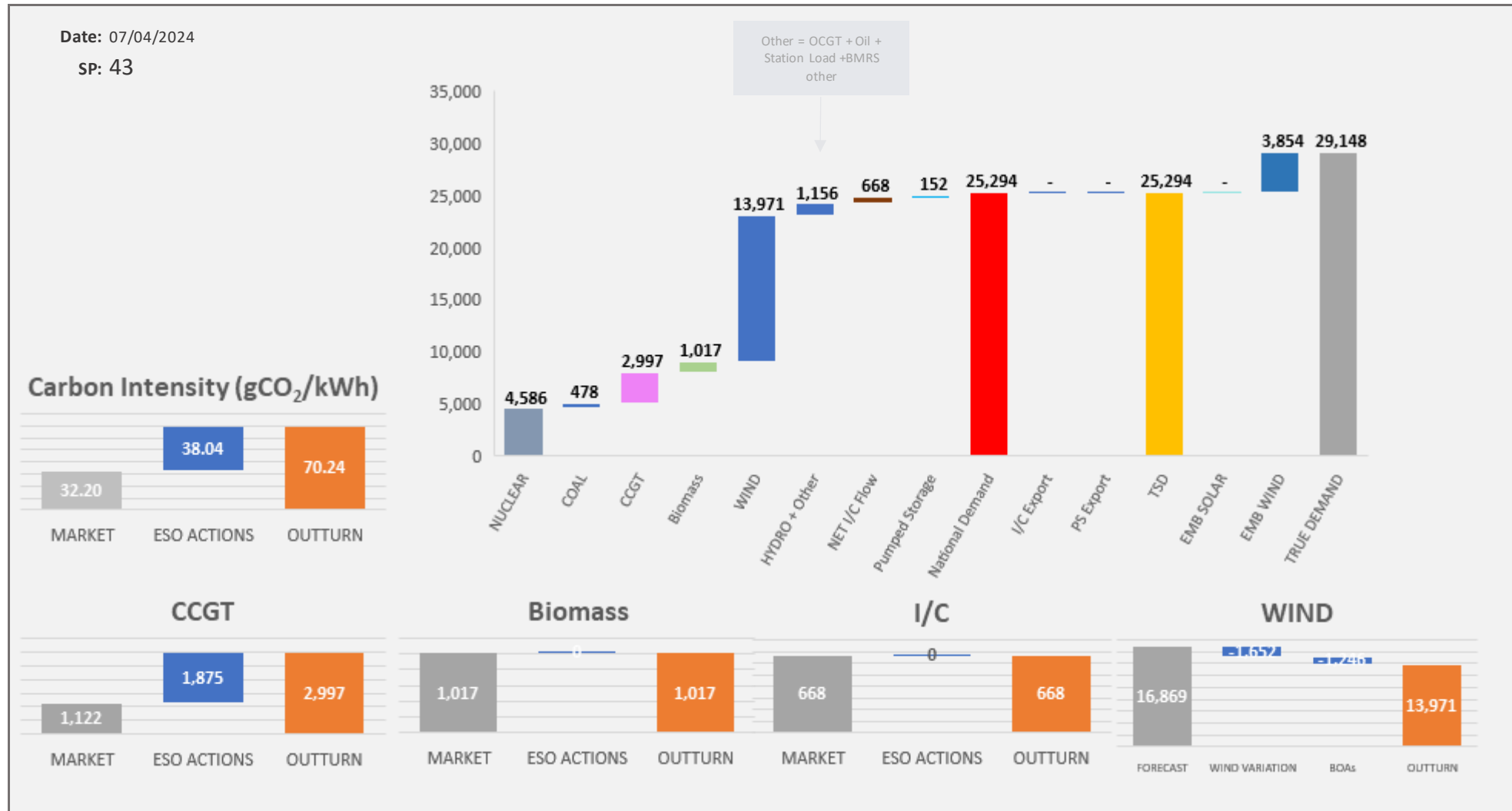
# ESO Actions | Tuesday 2 April – Peak Demand – SP spend ~£95k



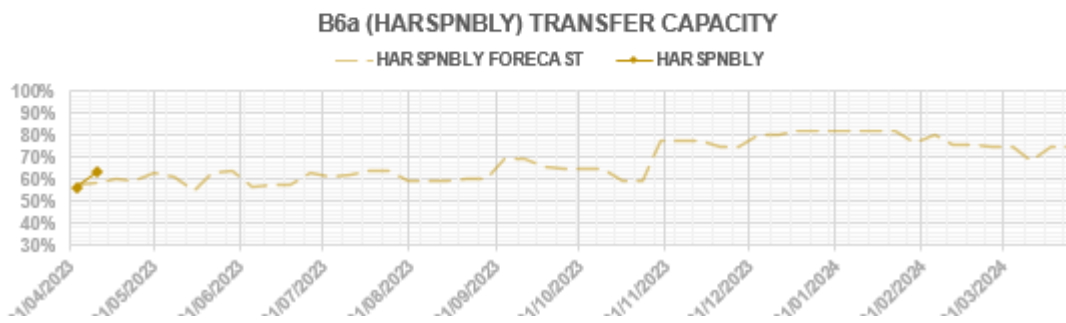
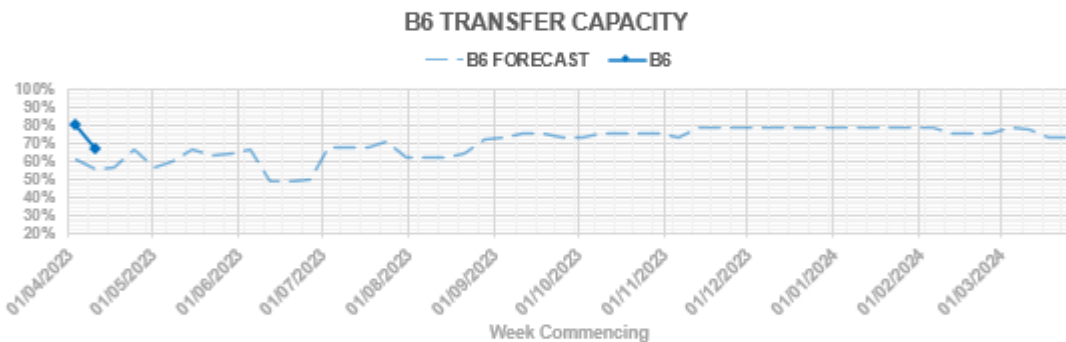
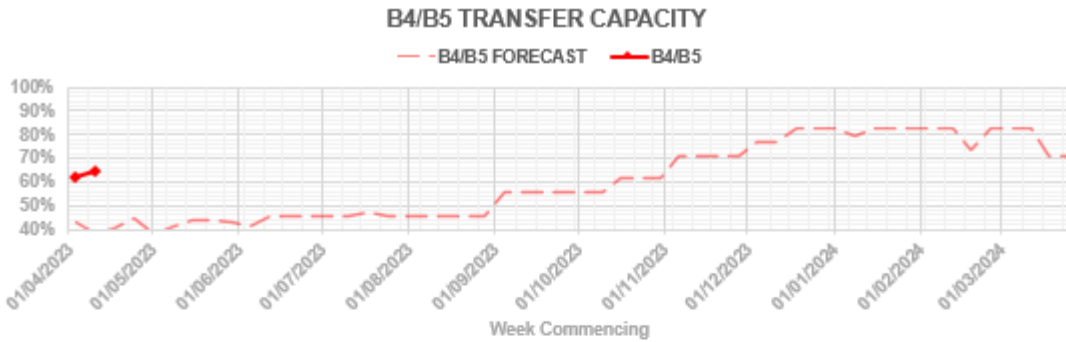
# ESO Actions | Sunday 7 April – Minimum Demand – SP Spend ~£234k



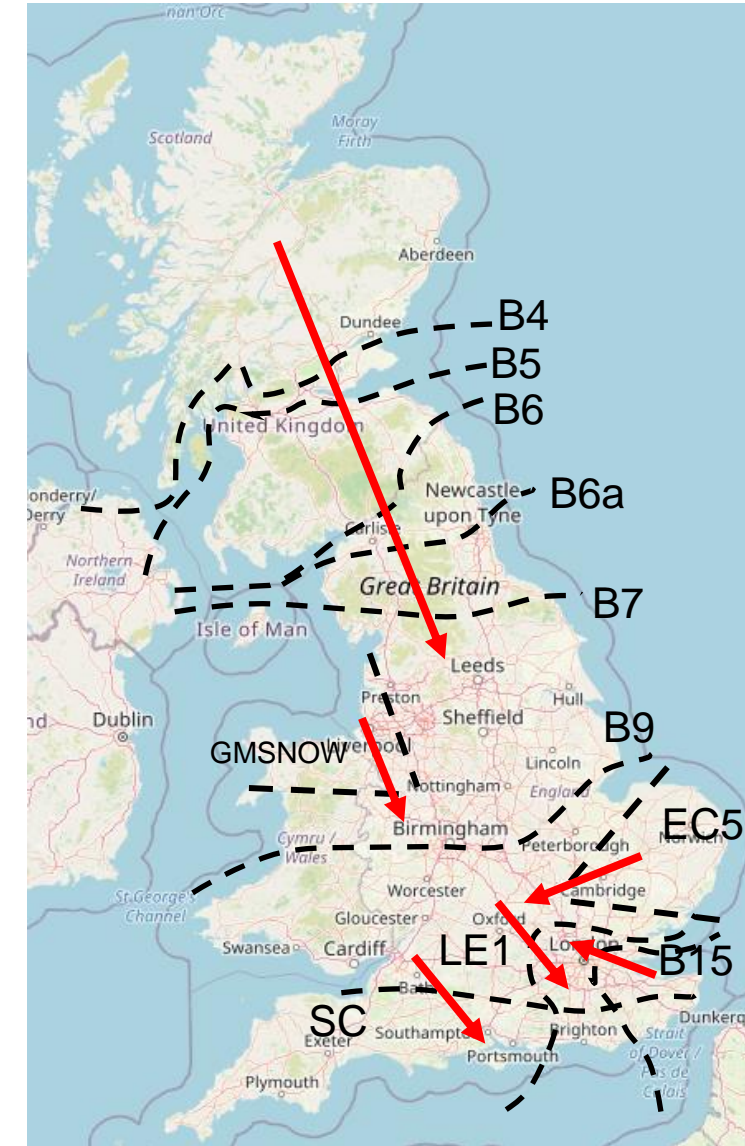
# ESO Actions | Sunday 7 April – Highest SP Spend ~£295k



# Transparency | Network Congestion



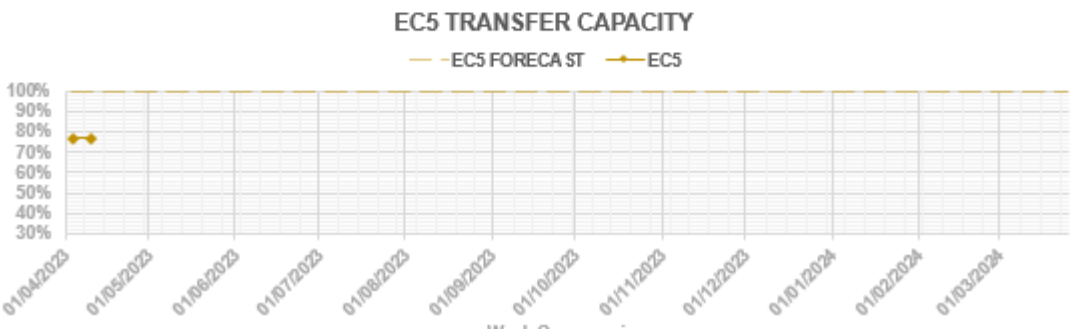
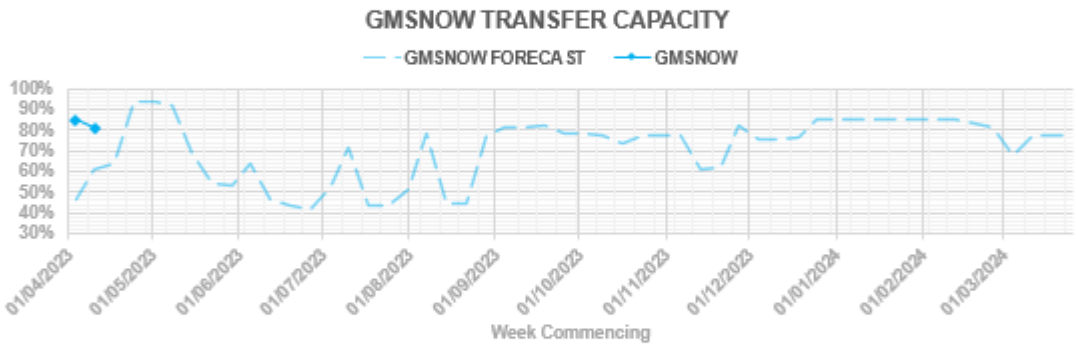
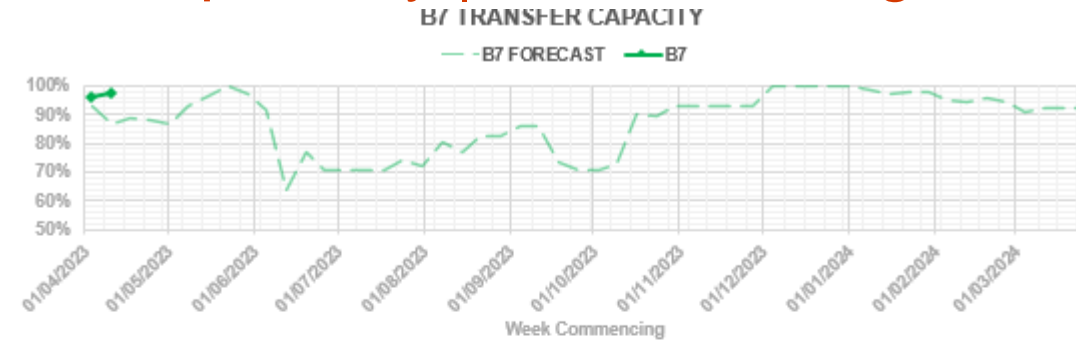
Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5	3400	65%
B6	6800	68%
HARSPNBLY	8000	63%
B7	8325	97%
GMSNOW	4700	81%
EC5	5000	77%
LE1	8500	67%
B15	7500	100%
SC1	7300	58%



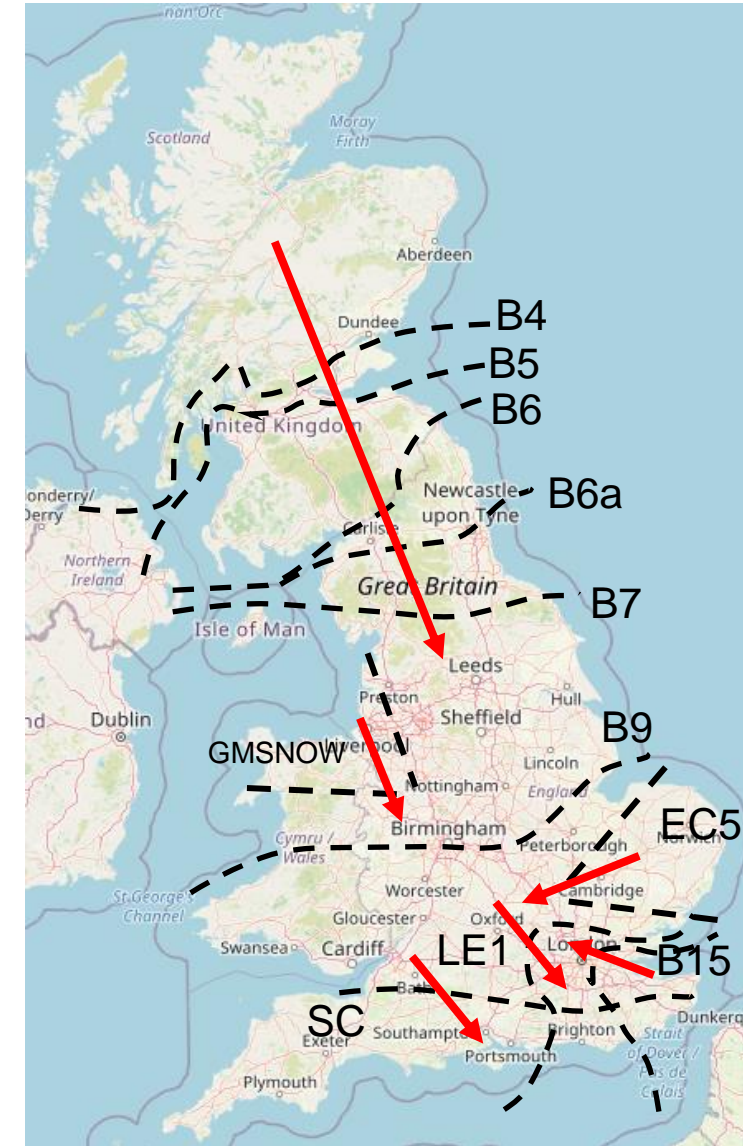
Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:

[Constraints Management](#)

# Transparency | Network Congestion



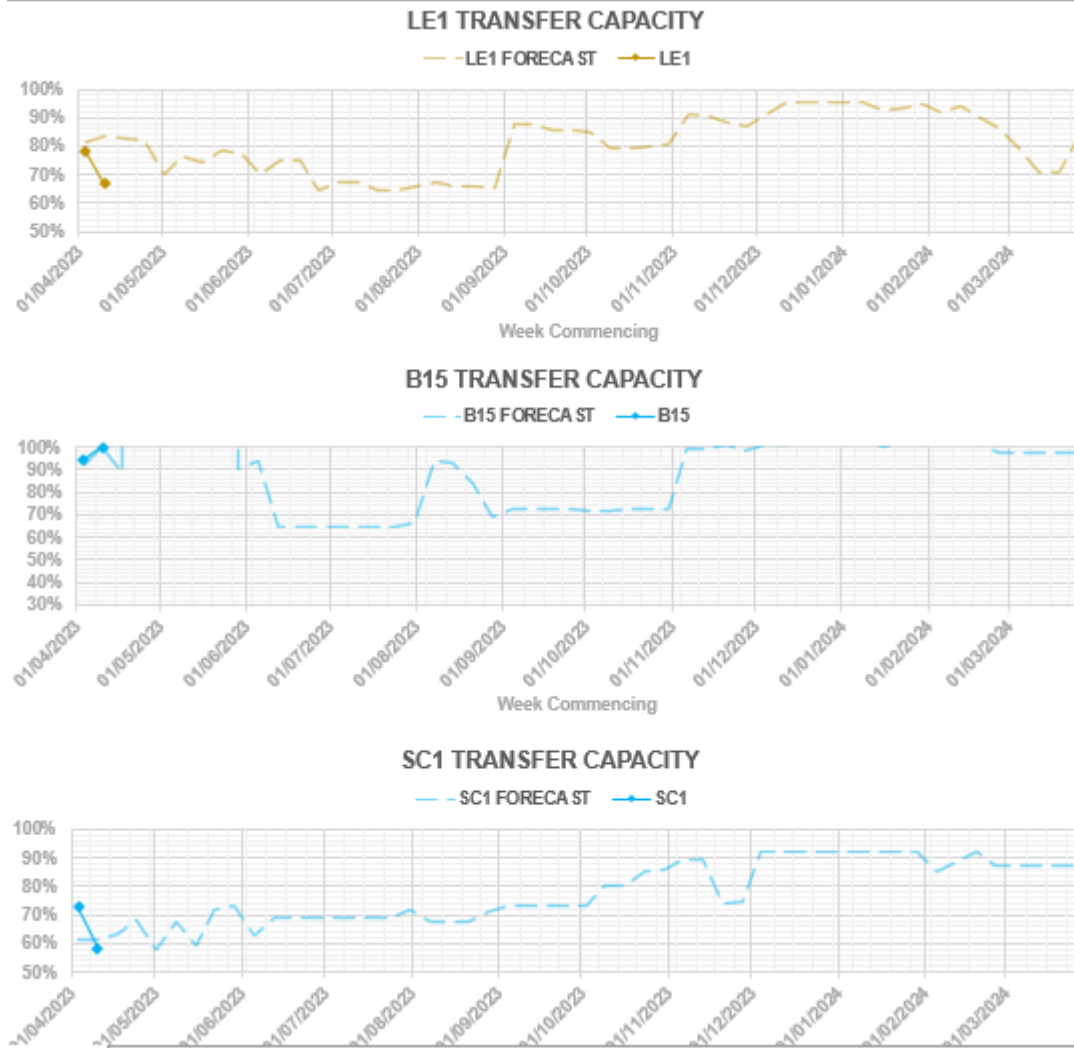
Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5	3400	65%
B6	6800	68%
HARSPNBLY	8000	63%
B7	8325	97%
GMSNOW	4700	81%
EC5	5000	77%
LE1	8500	67%
B15	7500	100%
SC1	7300	58%



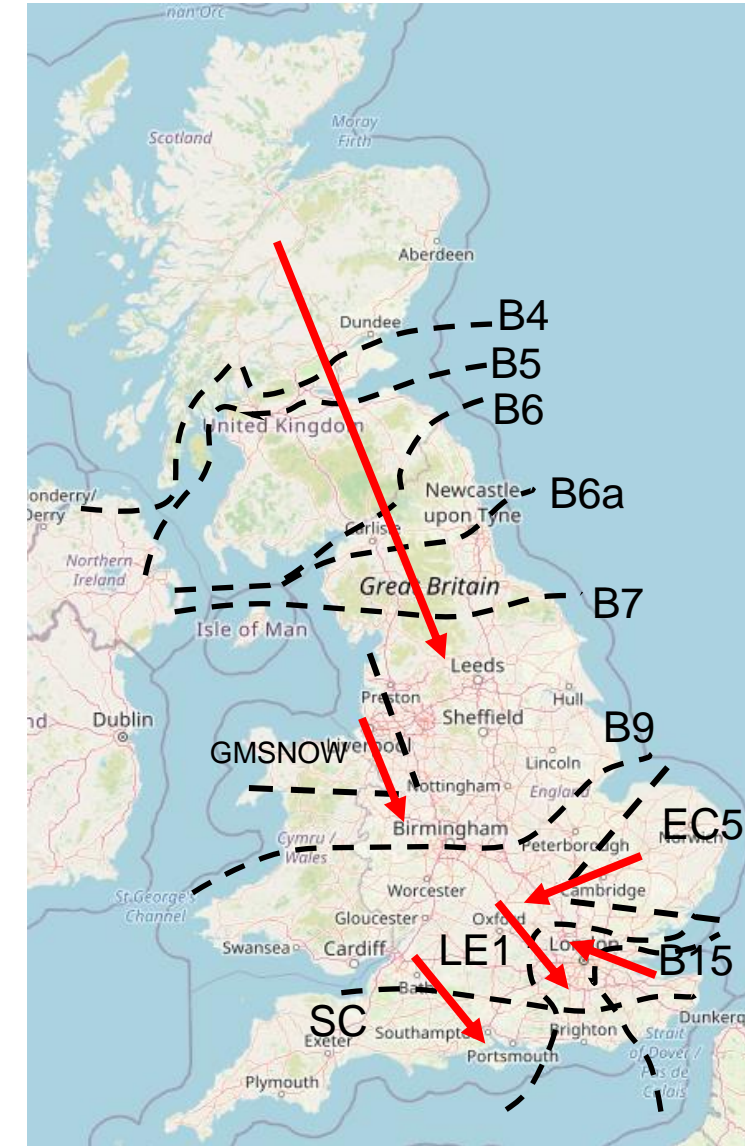
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# Transparency | Network Congestion



Boundary	Max. Capacity (MW)	Current Capacity (%)
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B7	8325	97%
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EC5	5000	77%
LE1	8500	67%
B15	7500	100%
SC1	7300	58%



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

## Advance questions

Q: A Utility Week report today includes a graph of 'DFS Competitive tests over winter 2023-24' that shows MW level 'Available' and 'Procured'. To ensure transparency can ESO please provide this 'Available' and 'Procured' MW data, for the dates shown, by each of the 14 DNO areas. Thanks

A: The DFS Utilisation Report ([https://www.nationalgrideso.com/data-portal/demand-flexibility-service/dfs\\_utilisation\\_report](https://www.nationalgrideso.com/data-portal/demand-flexibility-service/dfs_utilisation_report)) shows Accepted/Rejected quantities for each event per DFS Unit alongside their indicative distribution by GSP Group.

Q: Would you be able to share an updated STOR daily procurement requirement document for season 18? On your website, the most recent one was published in March 2021. Thanks!

A: Thank you for the question, this one pager requirements document is available up until 1 April 2024 on the STOR page on our website. We will contact the relevant teams to confirm whether an update for requirements beyond this can be uploaded to the website. There is no change to the usual STOR volume within the daily auctions of 1310MW.

If you have any further questions on this topic please send them to [Commercial.Operation@nationalgrideso.com](mailto:Commercial.Operation@nationalgrideso.com)

[Short term operating reserve \(STOR\) | ESO \(nationalgrideso.com\)](#)

Technical requirements	New providers	Existing providers	Document library
Assessment principles >			Daily Auction results and the Buy Curve are published on the Data Portal. <a href="#">View market information on the Data Portal</a>
Getting paid >			<a href="#">STOR Daily Procurement Requirement</a>
STOR procurement >			<a href="#">STOR Daily Procurement Requirement – January 2023 update</a>
Market information >			<a href="#">STOR Daily Procurement Requirement - April 2023 update</a>
Providing STOR >			
STOR day ahead procurement training materials >			



## Reminder about answering questions at the ESO 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 ESO) and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: [marketreporting@nationalgrideso.com](mailto:marketreporting@nationalgrideso.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.
- **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.nationalgrideso.com/what-we-do/electricity-national-control-centre/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 ESO 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

**slido**

## **Audience Q&A Session**

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

# 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@nationalgrideso.com](mailto:box.NC.Customer@nationalgrideso.com)

Publicly available

# Appendix

# Participation in the Operational Transparency Forum

Thank you to everyone who participates in the OTF, whether you join weekly, monthly, on specific occasions or follow up with the webinar recordings and published slides. We hear from participant feedback and our ESO colleagues that all of us value the opportunity to share information, ask questions and share the answers.

One of the reasons this format works so well is the professional courtesy we see demonstrated every week.

However, in recent weeks there have been some Slido questions and comments in the Q&A session directed at specific market participants suggesting their actions are not appropriate. This is concerning because:

- The statements are being made in a public forum without the opportunity to reply
- The negative comments may impact these businesses directly, or indirectly e.g.: through social media, etc.
- The individuals asking questions could not be traced using the details provided in Slido

**The OTF is not the place to challenge the actions of individual parties** (other than the ESO) and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at:

[marketreporting@nationalgrideso.com](mailto:marketreporting@nationalgrideso.com)

**Remember**, if you have reasons to remain anonymous to the wider forum, or have concerns your question may not be one to ask in public, you can use the advance questions or email options.

# Purpose and scope of the ESO Operational Transparency Forum

## 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 ESO 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  
ESO operational approach & challenges  
ESO 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 ESO Control Room actions & decision making  
Activities & operations of particular market participants  
ESO policy & strategic decision making  
Formal consultations e.g.: Code Changes, Business Planning, Market development

# Managing questions at the ESO Operational Transparency Forum

- 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@nationalgrideso.com](mailto:box.NC.Customer@nationalgrideso.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 | ESO \(nationalgrideso.com\)](#)
- **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 ESO 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