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ESO Operational Transparency Forum

03 April 2024

Introduction | Sli.do code #OTF

To ask questions live & give us with 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
- **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

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

3rd April 2024 – Overview of preparation for Easter weekend and clock change

Future

10th April 2024 – Easter weekend operation (Control room)

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

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.

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	Contact here
Connections	No impact. Invoices will be raised as normal for May Variable Direct Debit customer collections will be delayed until restoration of system	Contact here
BSUoS	The last run of BSUoS will be the 25th April. The next run is expected to be 21st May	Contact here
AAHEDC (Hydro)	Invoices will be raised in advance with payment date reflecting the standard due date	Contact here
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	Contact here
App Fees	Invoices will be raised before outage if applicable and manually via offline process should this be required	Contact here

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 **26th April to 21st 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.

Enhancing the use of Storage Assets in our Balancing Activities

New 30-minute rule implemented

- We have now transitioned from the **15-minute rule to 30 minutes**. This will allow energy storage units to be instructed for up to 30 minutes, depending on system conditions, and responds to industry feedback which highlighted that the 15-minute rule hindered battery dispatch and utilisation.
- Units operating under the 30-minute rule are required to ensure they can sustain their declared available energy for the length of the instruction (up to 30 minutes), this will be monitored as per normal processes.
- The new 30-minute rule will be in place until new energy storage parameters are in place as part of GC0166.
- For more information regarding the 30-minute rule, please refer to the updated [EDT/EDL Submissions Guidance](#).
- If you have any further questions regarding this transition, please get in contact with us at box.balancingprogramme@nationalgrideso.com.



OTF Survey Feedback – Transmission Network

In the OTF survey we received multiple requests for more information about the future of the transmission network.

Last week ESO published the Beyond 2030 report, which maps the way to a clean, secure and affordable energy future, including recommended investment in the transmission network.

The Beyond 2030 report can be found here:

<https://www.nationalgrideso.com/document/304756/download>

If you have any questions, please contact:

box.OffshoreCoord@nationalgridESO.com

The future of the transmission network is a strategic topic and therefore sits outside the OTF scope of ‘operational timescales’. Any questions we receive through the OTF will be directed to this mailbox.



ESO

ESO

Easter weekend planning (Forecasting team)

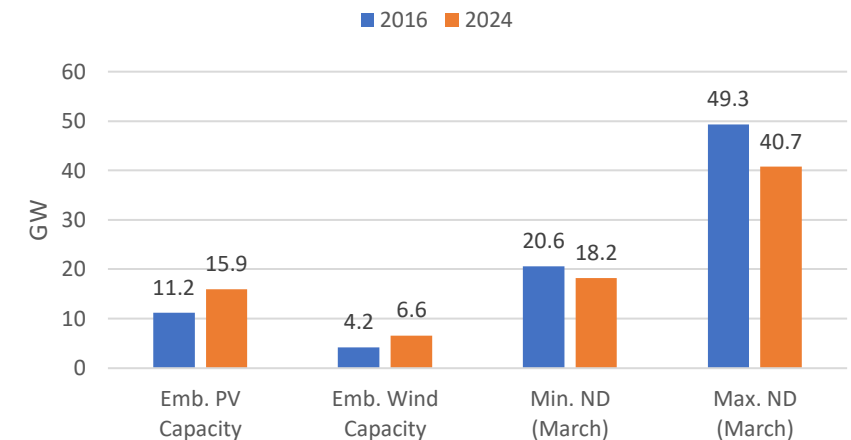
Additional complexity:

- **Bank holidays**
Handled by models – lower demand, similar to a weekend day
Earlier in year than most Easters, so cooler temps raise demand relative to other years
- **School holidays**
Handled by models – an averaged % of country on holiday variable used
- **New models (GMT > BST changeover)**
Updated models for BST due to differing responses/curve shapes to GMT
Models already trained and used within longer term forecasts prior to the Easter weekend
- **Profiling day**
Last time Easter was over clock change weekend was 2016 – very different system back then
Lack of comparable days to choose from
Clock change days have 46/50 Settlement Periods rather than 48

Usual processes still apply:

- Regular forecasts/updates (demand, distributed solar/wind, BMU wind)
- Twice daily forecast handovers between forecaster and OSM
- Weekend prep meetings with control room and relevant teams

Changing system - 2016 vs 2024

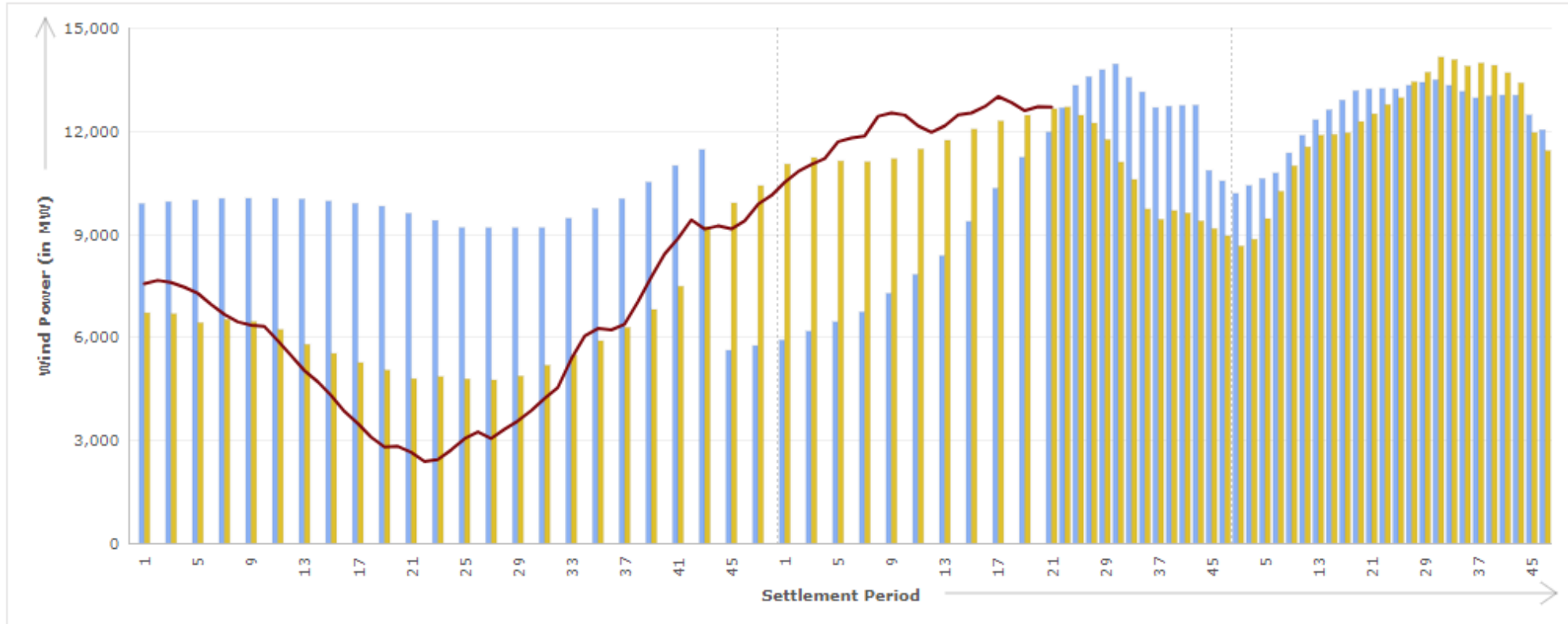


	2016 (GW)	2024 (GW)
Emb. PV Capacity	11.2	15.9
Emb. Wind Capacity	4.2	6.6
Min. ND (March)	20.6	18.2
Max. ND (March)	49.3	40.7

Easter weekend planning (Forecasting team)

Wind Forecast Out-turn

Data referring to : 2024-03-26, 2024-03-27, 2024-03-28



- Initial Forecast Value
- Latest Forecast Value
- Out-turn Forecast Value

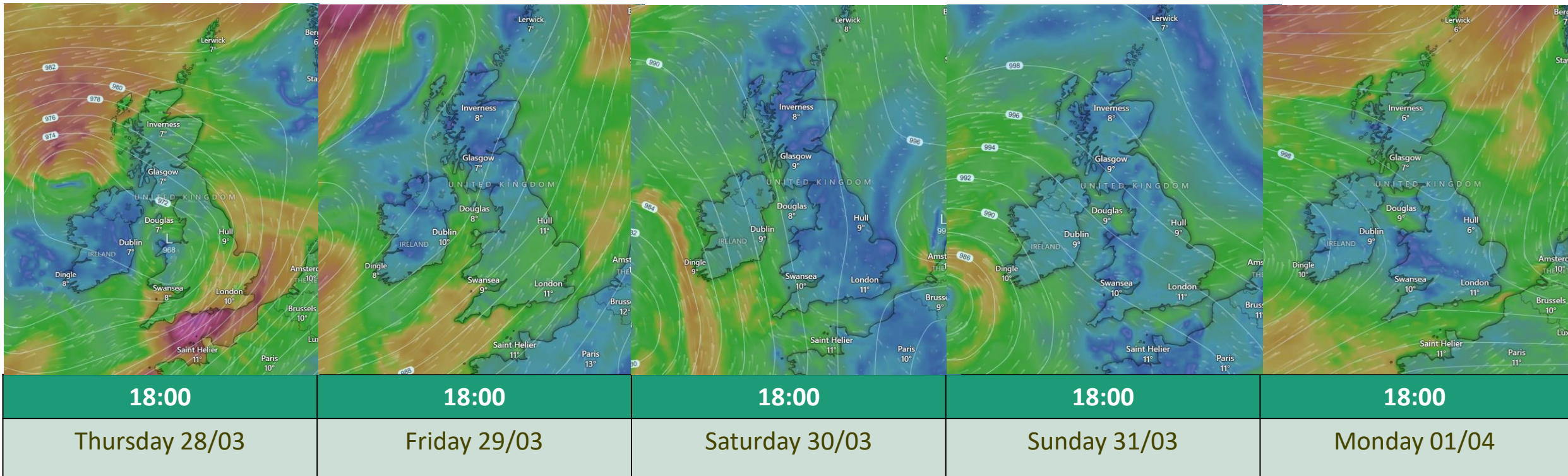
See BMRS link: <https://www.bmreports.com/bmrs/?q=generation/windforecast/out-turn>

Easter weekend planning (Forecasting team)

Multiple low pressure systems, swirling winds

Wind settling down

Strong winds forming above and below UK in opposite directions



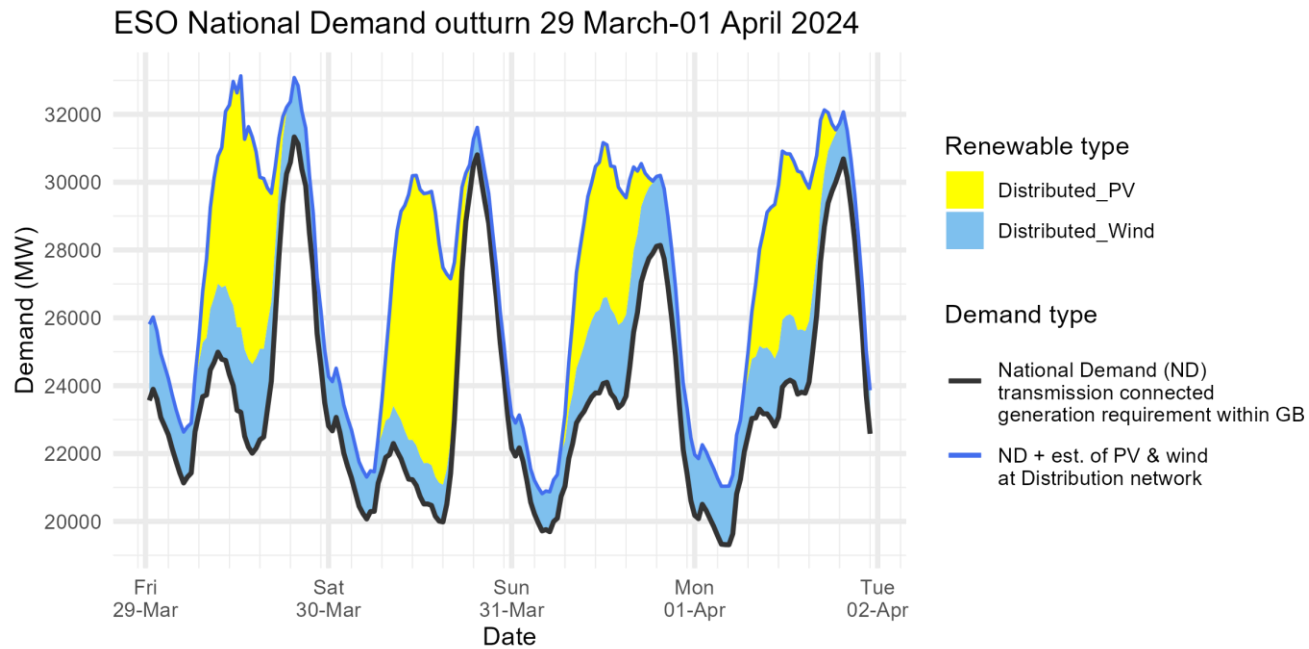
View as of Thursday 28/03

Source: <https://www.windy.com/>

Easter weekend planning (Forecasting team)

Time	Event
13+ weeks ahead	<ul style="list-style-type: none">• BST forecasting models trained
14+ days ahead	<ul style="list-style-type: none">• School holiday percentages updated• Automated medium term forecasts made
Mon 25	<ul style="list-style-type: none">• Possible profile days chosen
Tue 26	<ul style="list-style-type: none">• Discussions with weather forecast provider around weekend uncertainty (continuing over coming days)
Wed 27	<ul style="list-style-type: none">• Weekend strategy meeting with Control Room + relevant teams
Thu 28	<ul style="list-style-type: none">• Weekend strategy meeting update• Daily 2x handover (forecaster + control room)

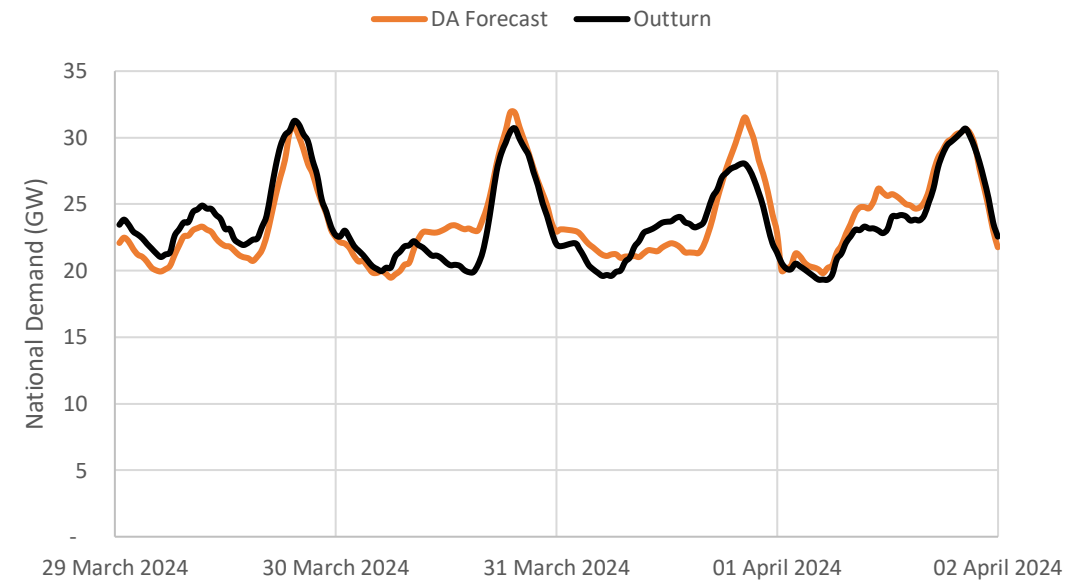
Demand | Easter weekend demand out-turn



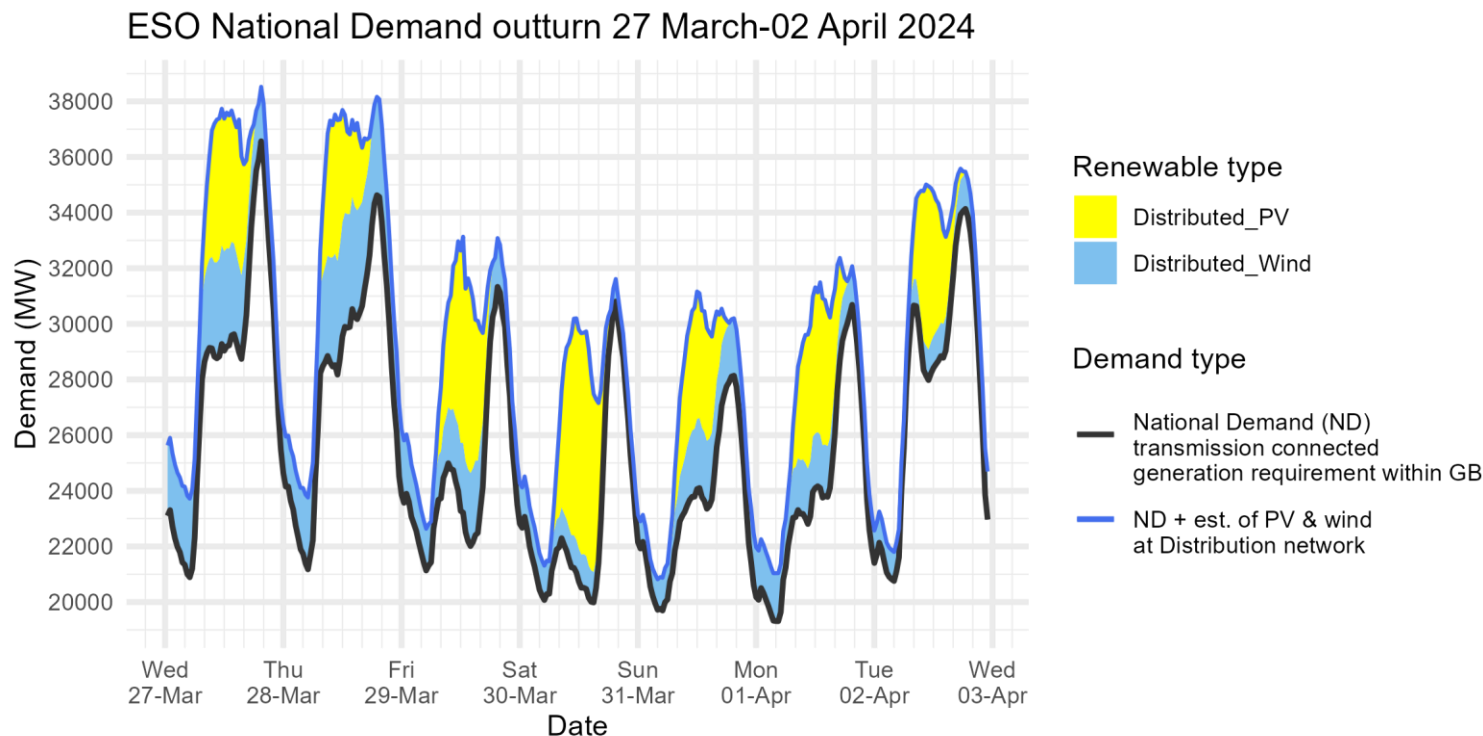
The black line (National Demand ND) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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

Day ahead demand forecasts vs Outturn (Easter weekend 2024)



Demand | Last week demand out-turn



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

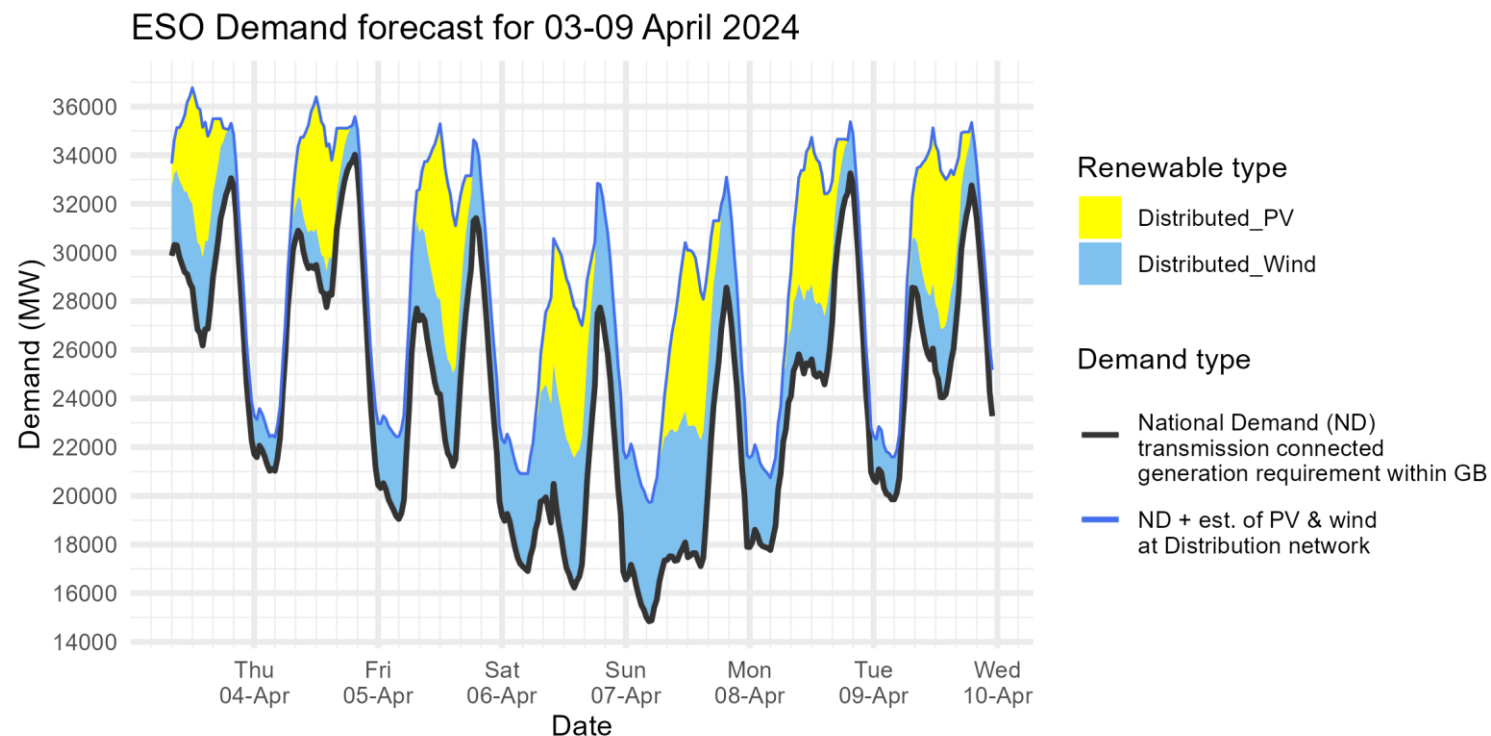
ND values **do not include** export on interconnectors or pumping or station load

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 27 Mar)		OUTTURN	
		National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Dist. wind (GW)
27 Mar	Evening Peak	36.6	2.0	36.6	2.0
28 Mar	Overnight Min	21.2	2.2	21.2	2.6
28 Mar	Evening Peak	33.5	3.5	34.6	3.5
29 Mar	Overnight Min	20.9	2.2	21.1	1.5
29 Mar	Evening Peak	30.0	2.1	31.3	1.8
30 Mar	Overnight Min	20.1	1.5	20.1	1.2
30 Mar	Evening Peak	31.9	1.1	30.8	0.8
31 Mar	Overnight Min	20.3	0.8	19.7	1.2
31 Mar	Evening Peak	30.0	1.3	27.9	2.1
01 Apr	Overnight Min	19.4	1.3	19.3	1.7
01 Apr	Evening Peak	30.0	1.6	30.0	1.4
02 Apr	Overnight Min	19.8	1.4	20.8	1.0
02 Apr	Evening Peak	33.7	1.2	34.1	1.3

Demand | Week Ahead



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

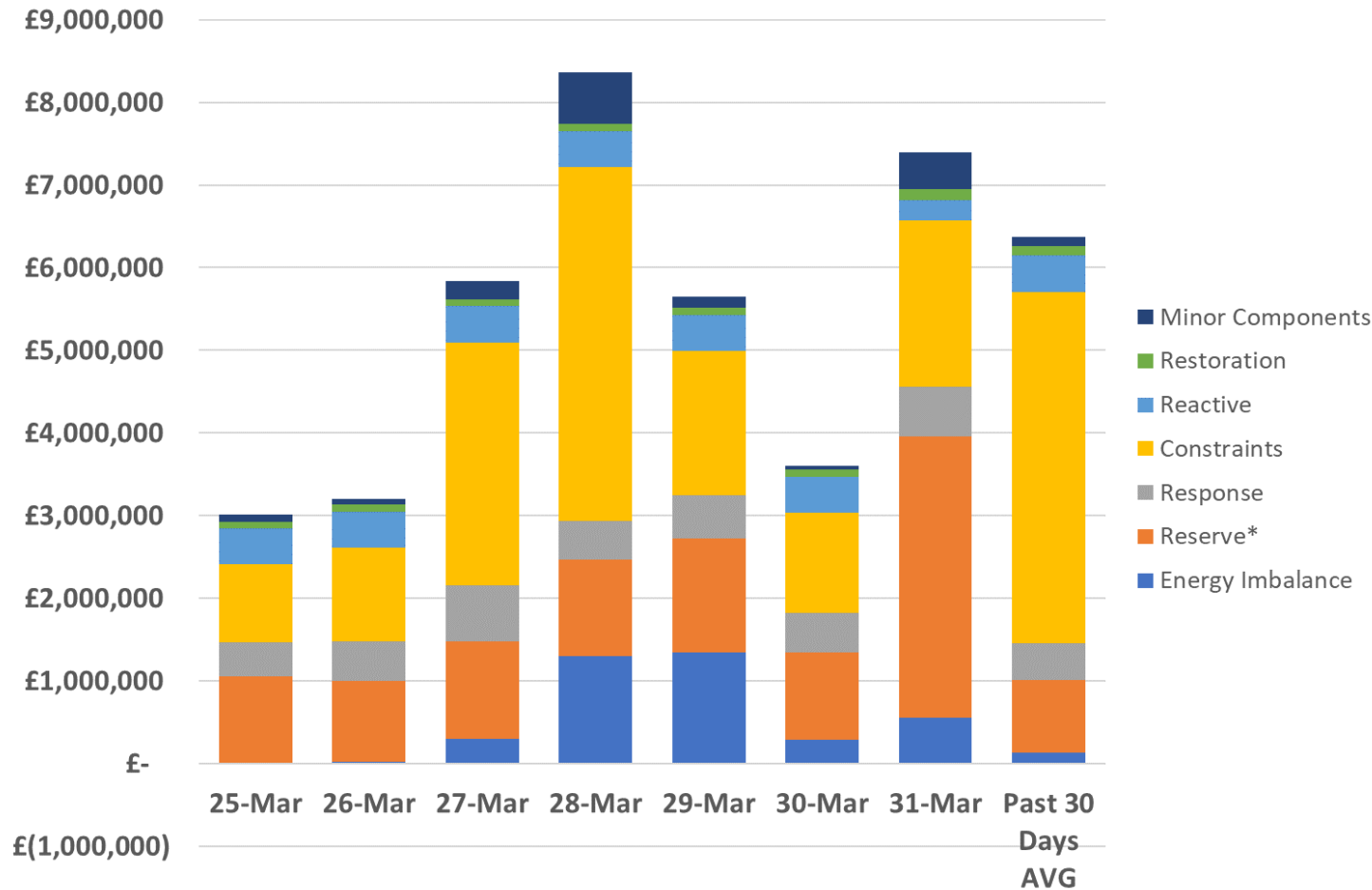
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Historic out-turn data can be found on the [ESO Data Portal](#) in the following data sets: [Historic Demand Data](#) & [Demand Data Update](#)

Date	Forecasting Point	FORECAST (Wed 03 Apr)		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
03 Apr 2024	Afternoon Min	26.2	3.6	5.4
04 Apr 2024	Overnight Min	21.0	1.4	0.0
04 Apr 2024	Afternoon Min	27.8	1.5	5.1
05 Apr 2024	Overnight Min	19.0	3.4	0.0
05 Apr 2024	Afternoon Min	21.2	3.8	6.5
06 Apr 2024	Overnight Min	16.9	4.0	0.0
06 Apr 2024	Afternoon Min	16.2	5.3	6.2
07 Apr 2024	Overnight Min	14.8	4.9	0.0
07 Apr 2024	Afternoon Min	17.1	5.2	6.1
08 Apr 2024	Overnight Min	17.8	3.0	0.0
08 Apr 2024	Afternoon Min	24.6	2.8	5.0
09 Apr 2024	Overnight Min	19.9	1.7	0.0
09 Apr 2024	Afternoon Min	24.0	2.8	6.3

ESO Actions | Category costs breakdown for the last week



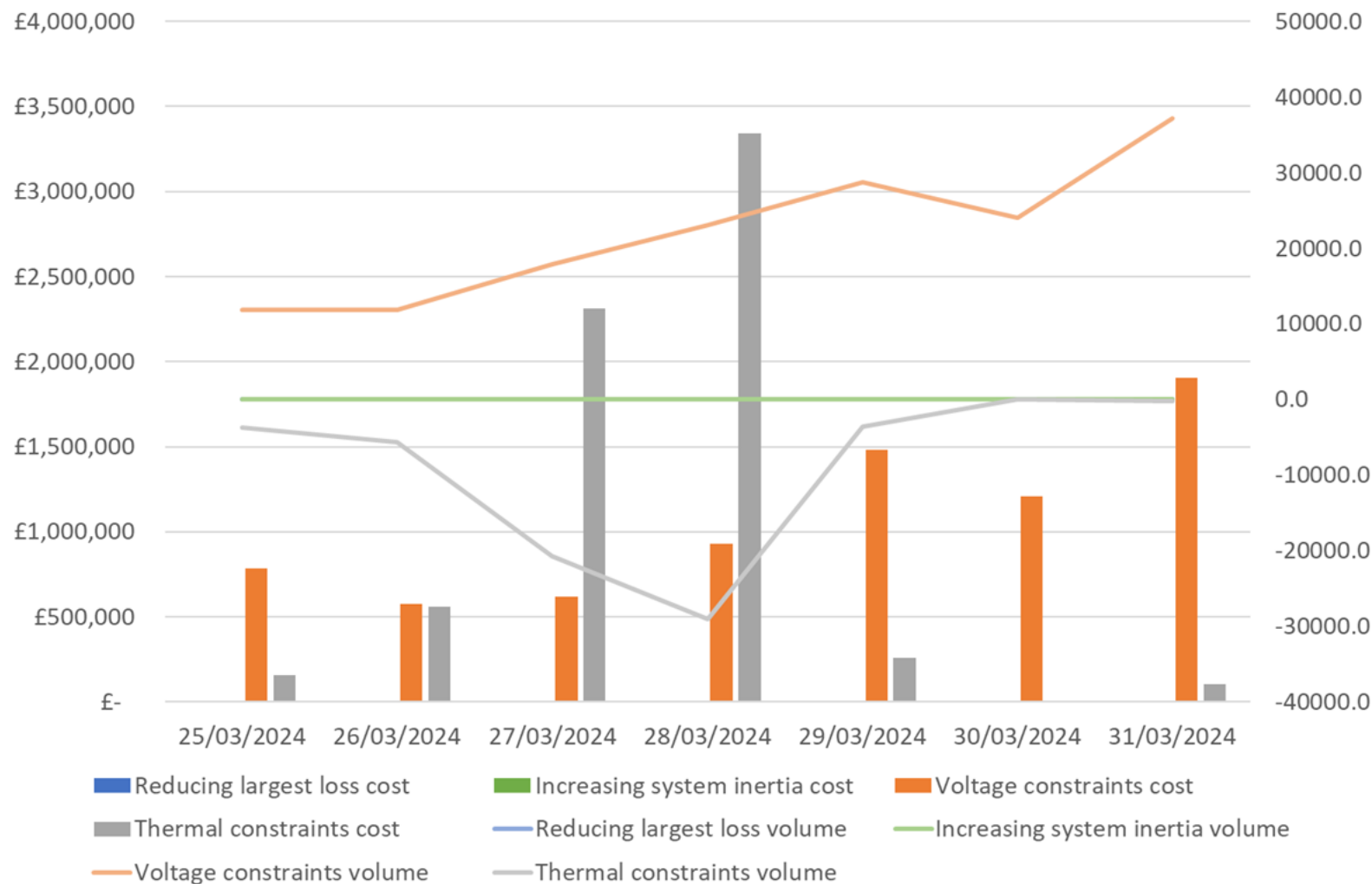
Date	Total (£m)
25/03/2024	3.0
26/03/2024	3.2
27/03/2024	5.8
28/03/2024	8.4
29/03/2024	5.7
30/03/2024	3.6
31/03/2024	7.4
Weekly Total	37.1
Previous Week	66.5

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 apart from Saturday.

Voltage

Intervention was required to manage voltage levels throughout the week.

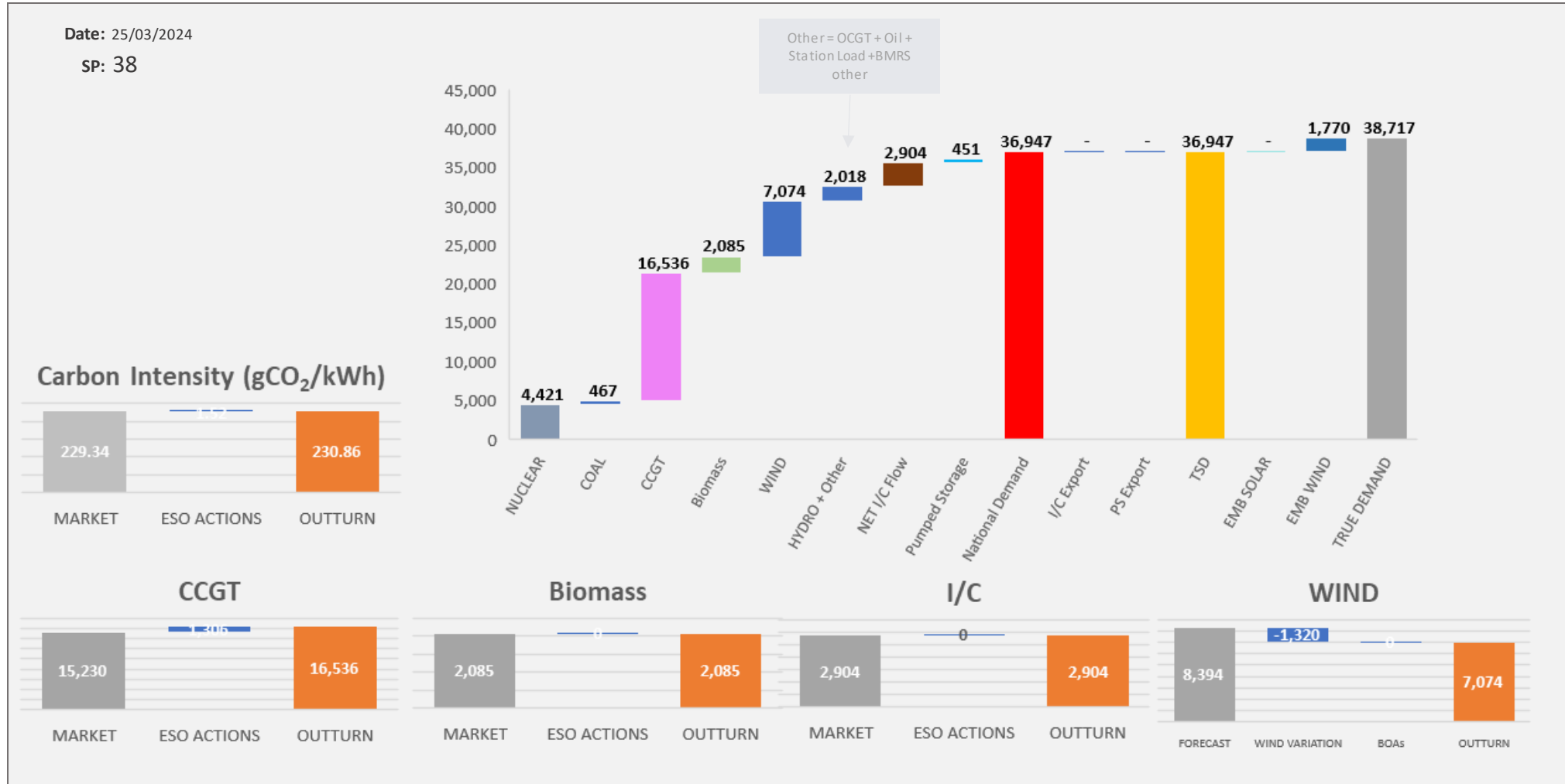
Managing largest loss for RoCoF

No intervention was required to manage largest loss.

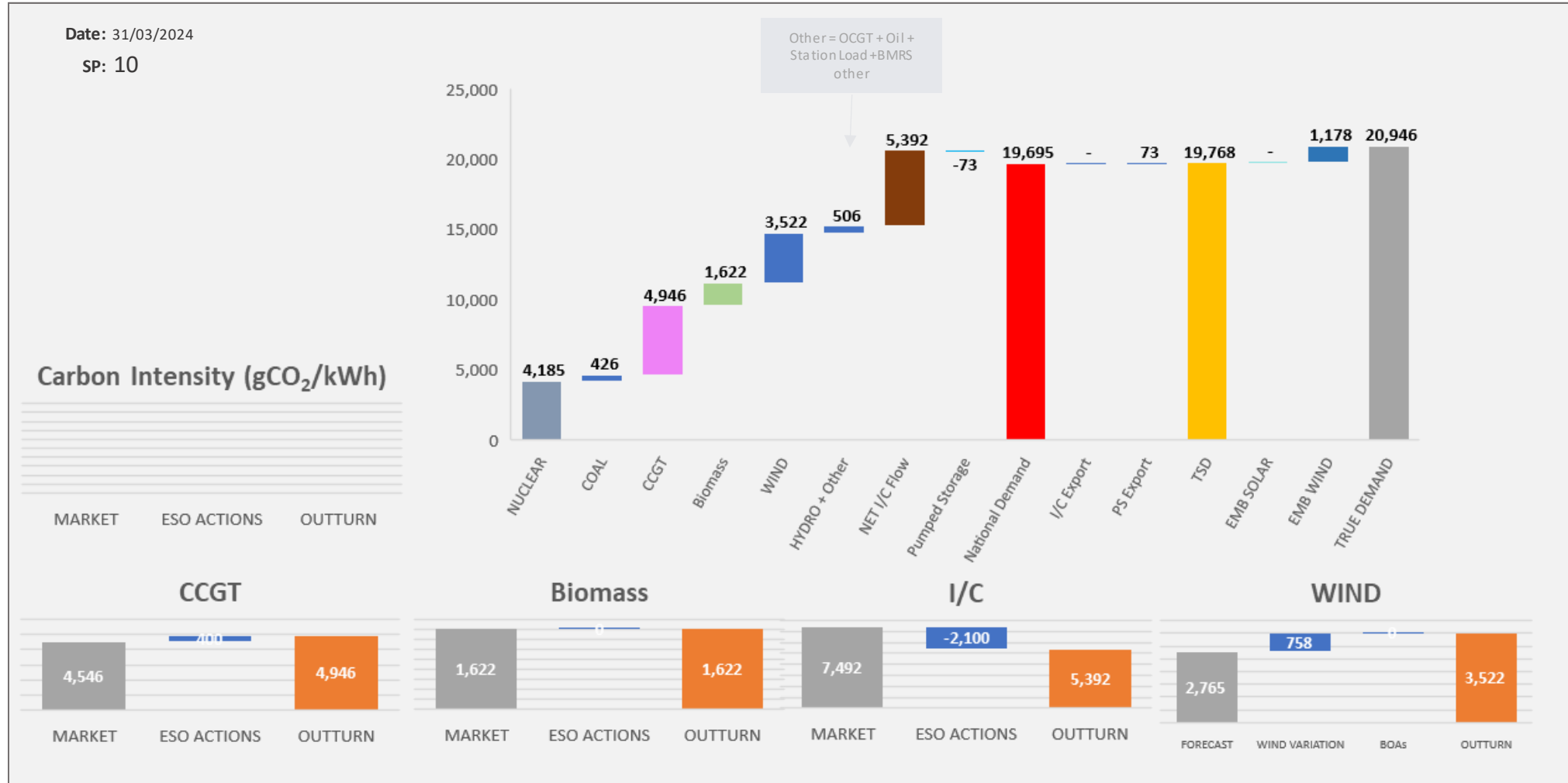
Increasing inertia

No intervention was required to manage System Inertia.

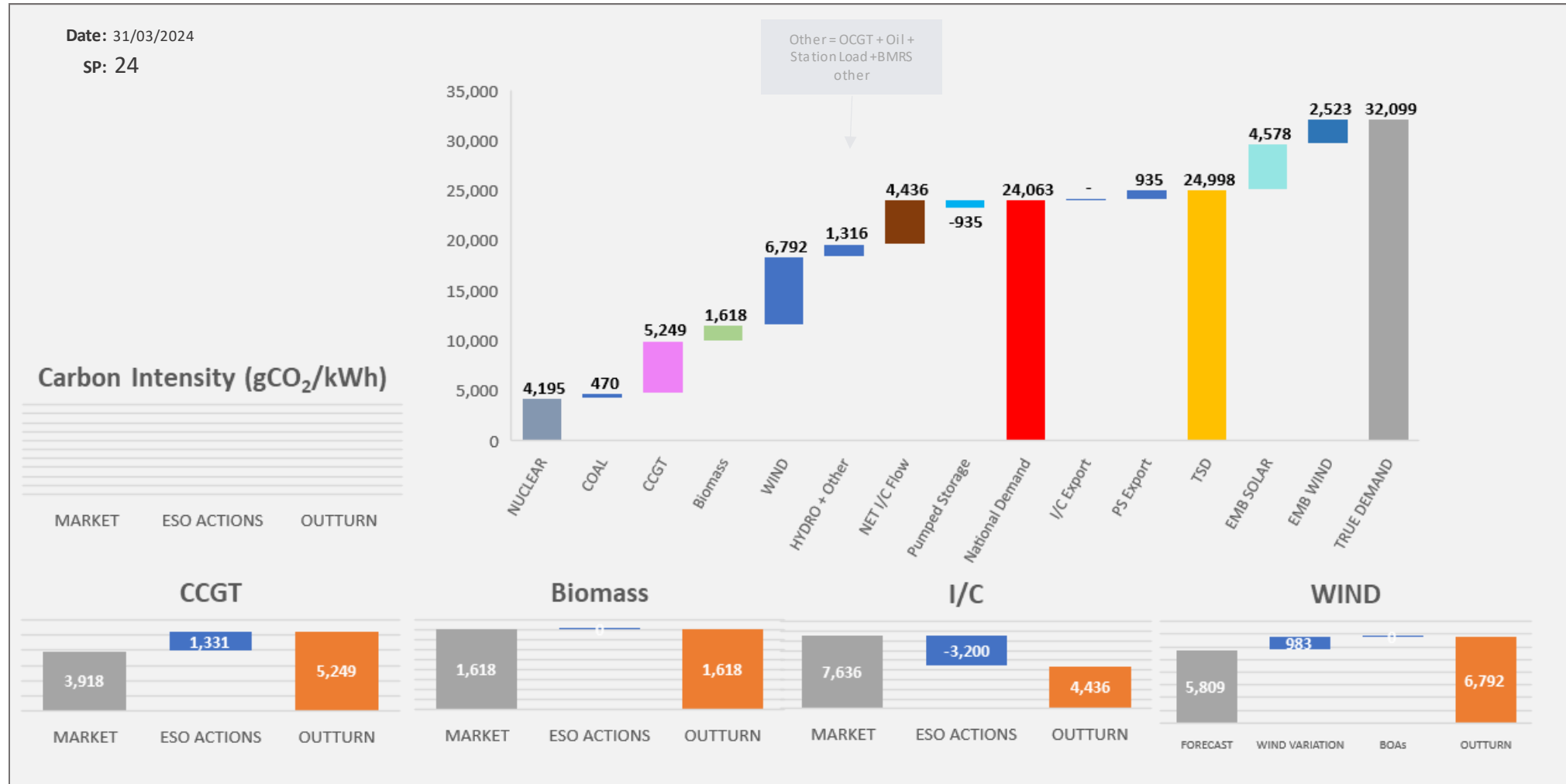
ESO Actions | Monday 25 March – Peak Demand – SP spend ~£43k



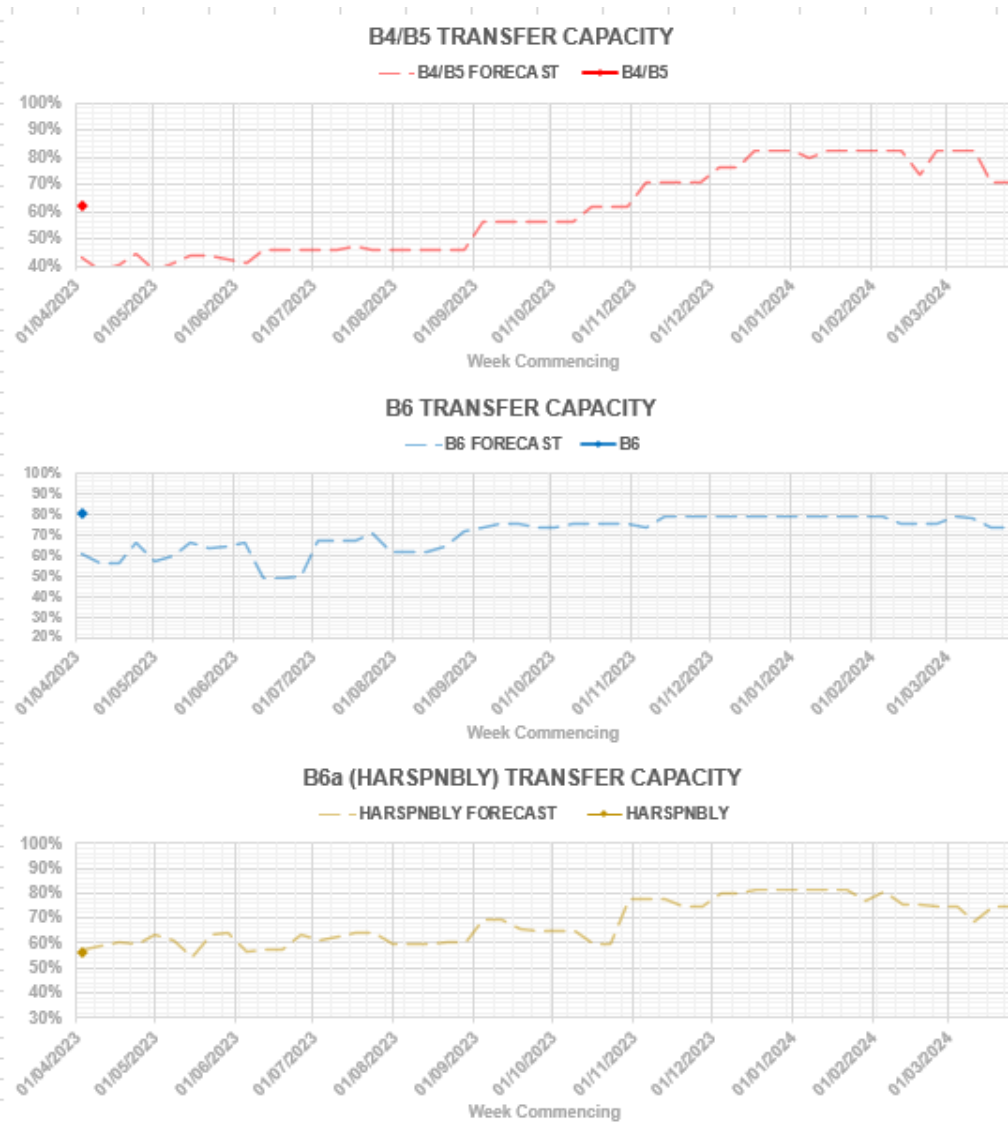
ESO Actions | Sunday 31 March – Minimum Demand – SP Spend ~£82k



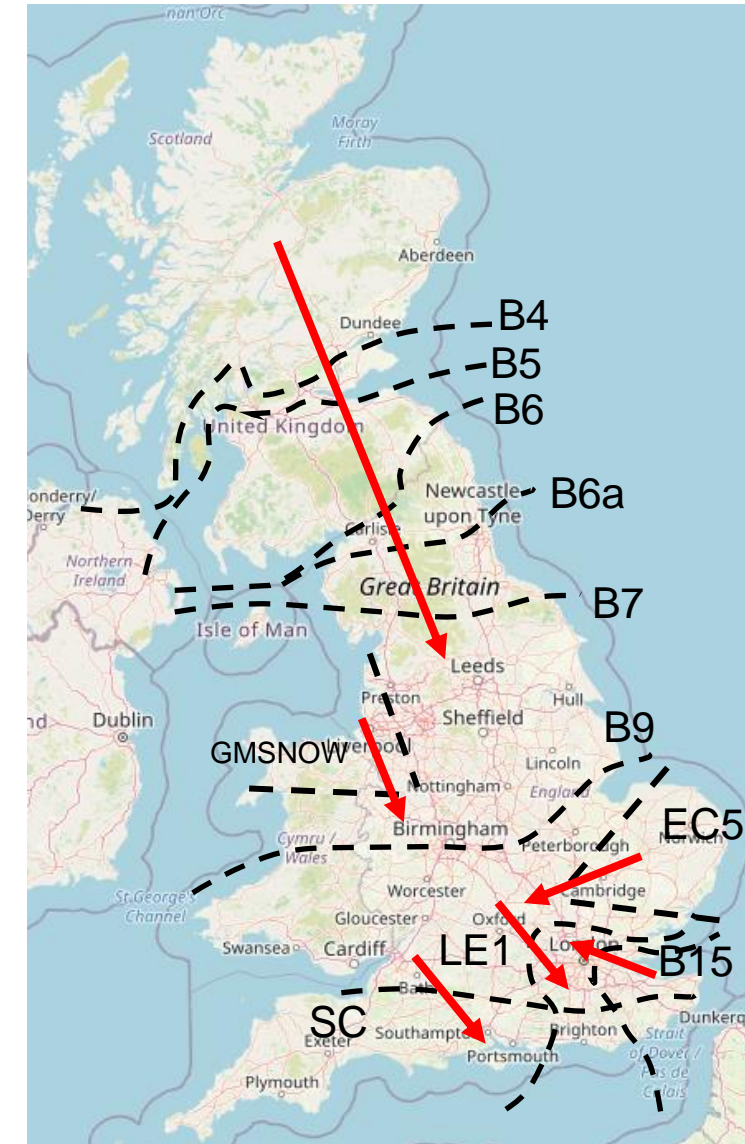
ESO Actions | Sunday 31 March – Highest SP Spend ~£276k



Transparency | Network Congestion



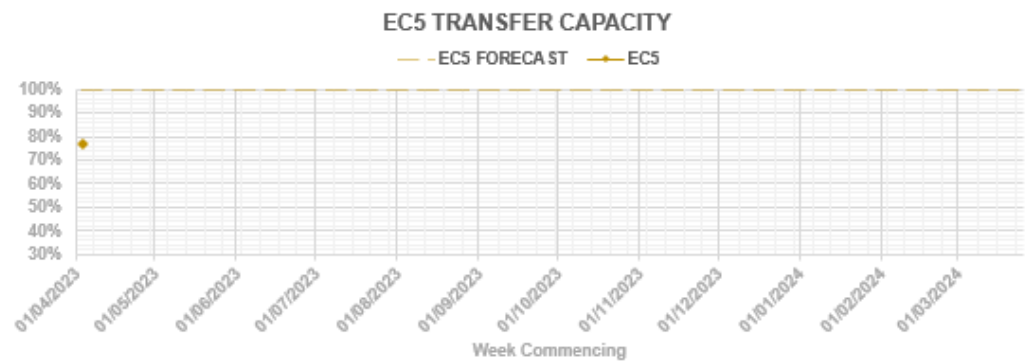
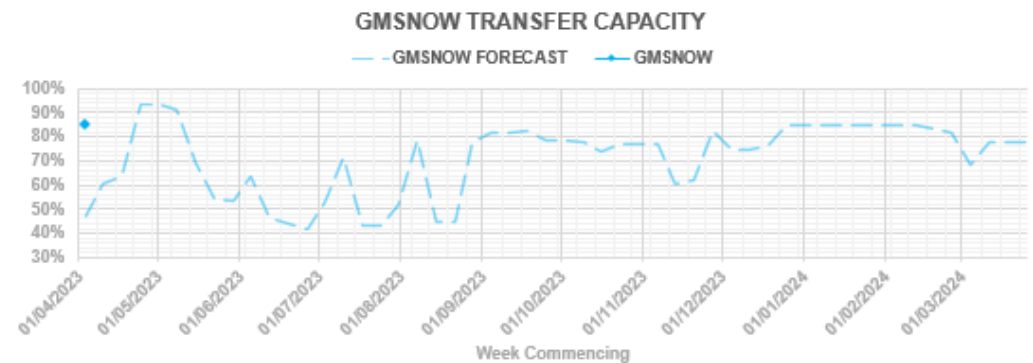
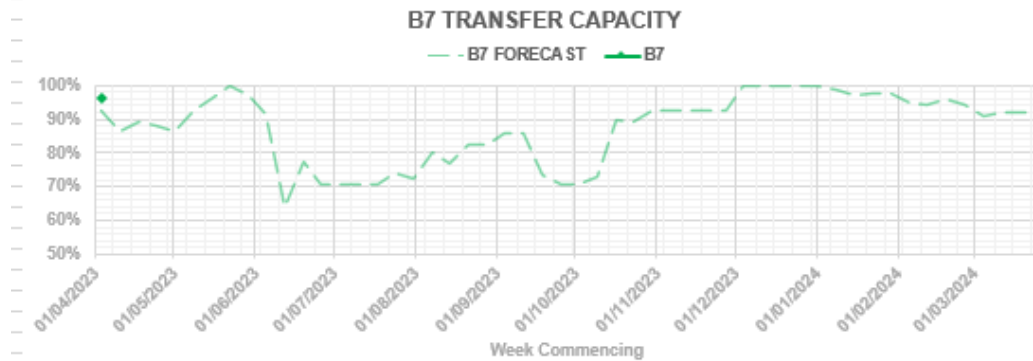
Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5	3400	62%
B6	6800	80%
B6a	8000	56%
B7	8325	96%
GMSNOW	4700	85%
EC5	5000	77%
LE1	8500	78%
B15	7500	95%
SC	7300	73%



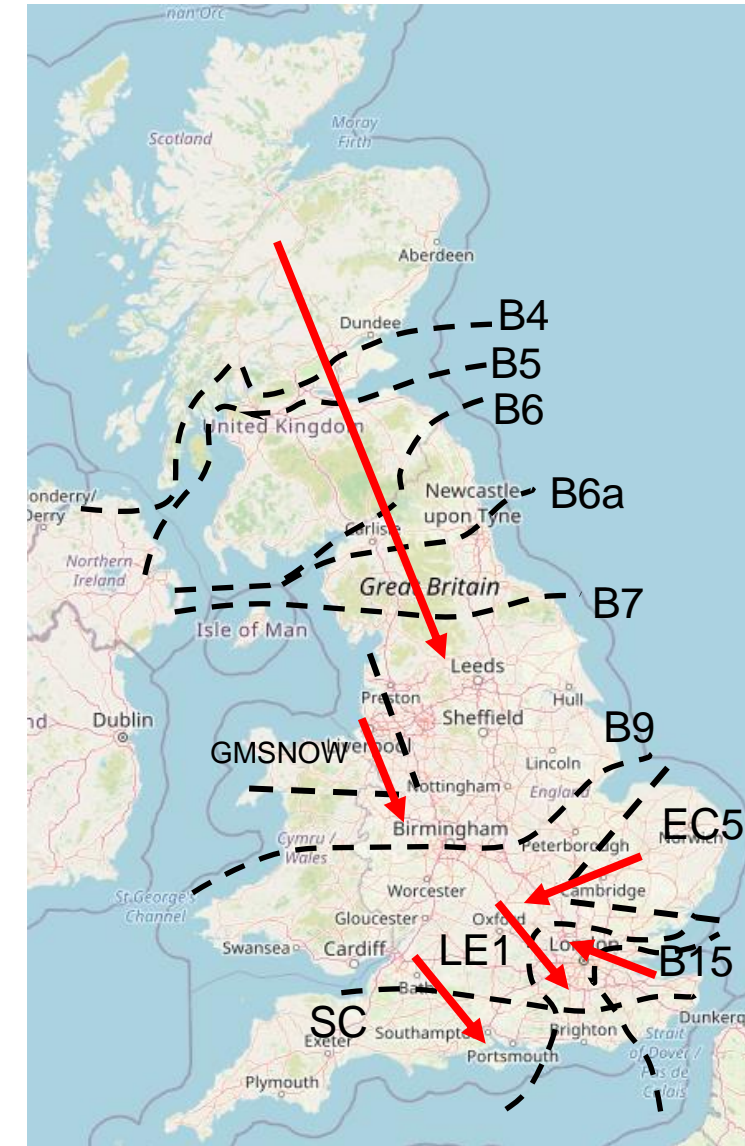
Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:

[Constraints Management](#)

Transparency | Network Congestion



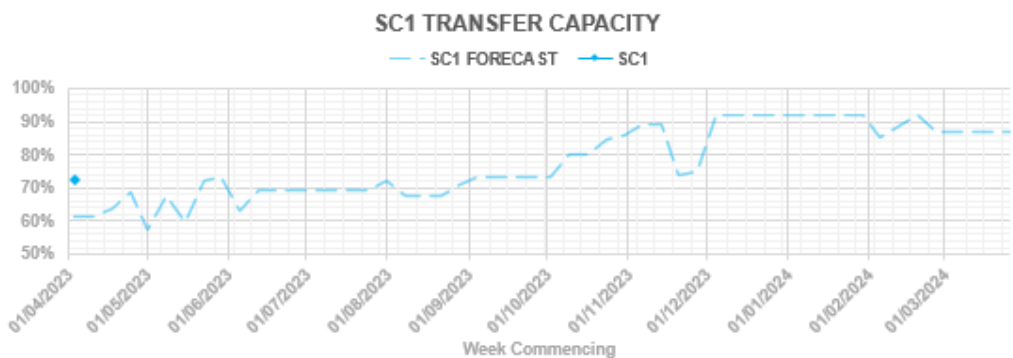
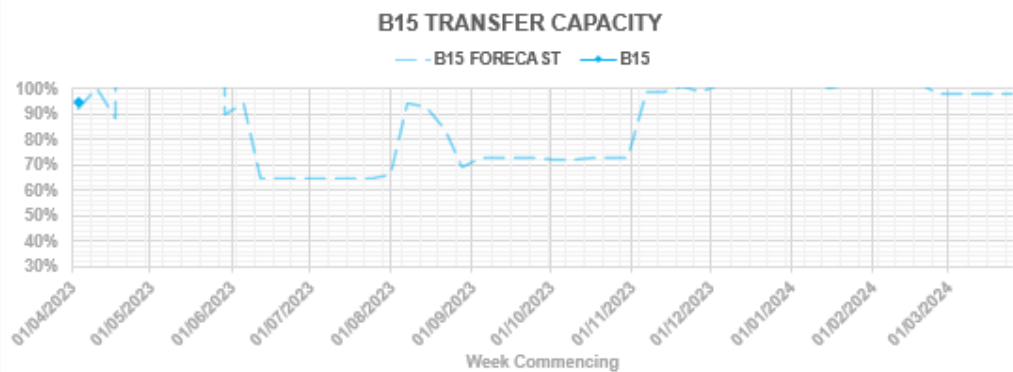
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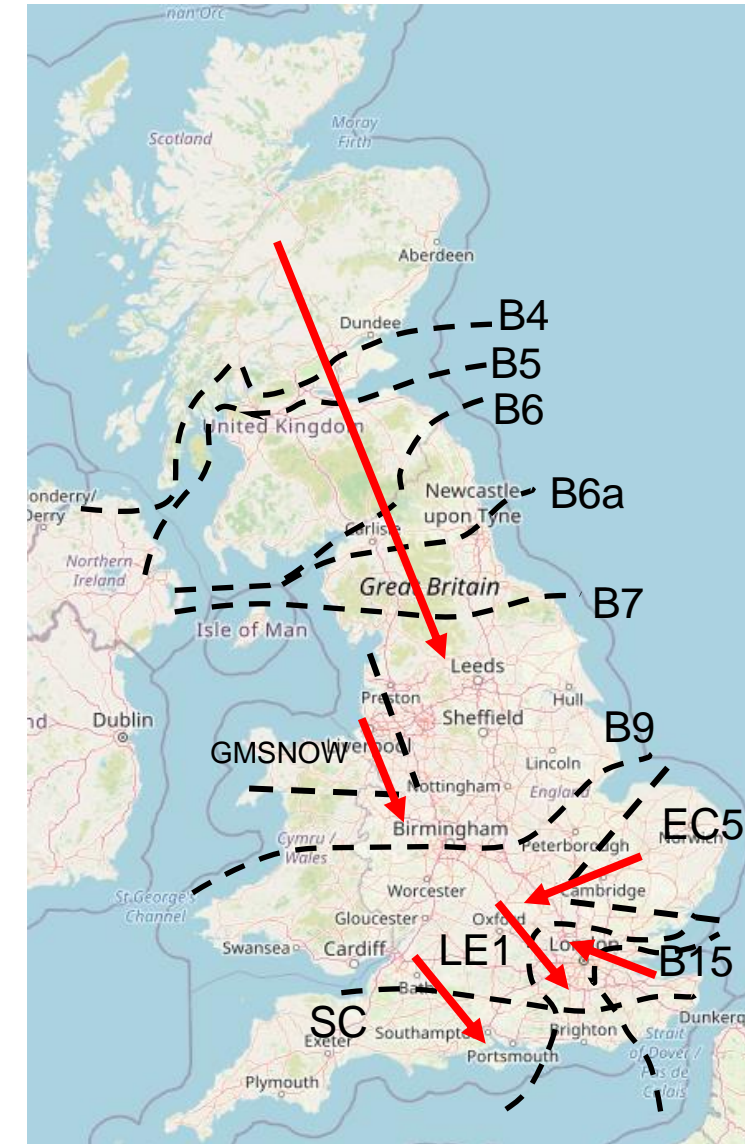
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Transparency | Network Congestion



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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](#)

Previously asked questions

Q: Apologies I missed the email address for deep dive suggestions, but could we have one on the REMA dispatch workstream?

A: Thanks for the suggestion, we will consider this as part of the future topic requests through the OTF survey.

If you have any suggestions please contact box.NC.Customer@nationalgrideso.com.

Q: Slido Questions/ etiquette - is it worth asking people to add their company alongside their name to be more transparent and if its someone from the public then call it "private individual" or something similar so we can at least gauge all the Qs a bit better and why they might be asking them?

A: Thank you for the suggestions.

Previously asked questions

Q: Can you confirm when the MFR volumes for February will be released on your website?

A: The February MFR volume has already been published and it is updated regularly in line with Service Level Agreement (SLA). If you cannot see the MFR volumes on the website, we suggest clearing your cache or try an alternative browser.

Q: Is there a process by which market participants can challenge what they might believe to be incorrect system flagging (either actions they think should have been flagged, or actions they think shouldn't have been flagged) and look to have actions retrospectively updated?

A: For questions and corrections to BOA flags please contact bm.liaisonandcompliance@nationalgrideso.com.

Requested changes to BOA Flags and other BOA data will be investigated & amended where appropriate in line with Balancing and Settlement Code Process 18 (BSCP18).

BOA = Bid Offer Acceptance used by the Control Room to issue unit instructions

BSCP18 = Balancing & Settlement Code Process 18

Previously asked questions

Q: Thanks Bernie for Demand slides- seems Distributed wind and solar are now c.10GW per day bring down Tx demand by this amount 30%. Does this mean we now have 1/3 generation coming from DNs? And what are the repercussions if this reaches like 50-60%?

A: The reduction in transmission system demand leads to reduced power flows on the network. This results in a need to ensure there is enough strength in the system to maintain its resilience. We continue to progress numerous network studies for future years to ensure we understand the system requirements and the potential solutions to manage low power flows. Relevant information can be found in our beyond 2030 documents published recently on: <https://www.nationalgrideso.com/document/304756/download>

If you have any questions, please contact: box.OffshoreCoord@nationalgridESO.com

Q: More out of curiosity than anything, demand peaked at 60 GW in c2008, do ESO have a view on what peak demand is now measured in same basis (i.e. net of a large swathe of DNO connected generation)?

A: On the assumption here that demand that the 60GW refers to is Transmission demand at GSP level. The like for like peak demand for 23/24 was 43.9GW. The difference can be explained at least partly by more generation connecting at distribution level since 2008.

Q: Related to John Costa's question on distributed generation, could we have a deep dive on this topic, which include consideration of total demand including behind the meter self consumption. This is important for issues such as fault ride through considerations.

A: Thanks for the suggestion, we will consider this as part of the future topic requests through the OTF survey. If you have any suggestions please contact box.NC.Customer@nationalgrideso.com.

Advance questions

Q: The Negative Balancing Reserve price from the ESO has been capped at a low static level since the start of the auction, are there plans to have this shaped similar to the Positive Balancing Reserve and also increase in value on days similar to 23rd of March where the system is well supplied?

A: Thank you for the question.

We launched Negative Balancing Reserve (NBR) with a buy order price reflective of long term historic costs over the early spring period to enable some volume to be procured in order to learn about the functionality of the market, and delivery of the service. Whilst not commercially viable for all participants we believe this price level should be sufficient to secure NBR from some parties.

As with all of our auctions and buy orders we are continuously reviewing the processes and outturn of models to ensure the buy orders are enabling us to buy the services we need whilst reflecting value against alternative actions.

Unlike Positive Balancing Reserve (PBR), NBR was not part of the benefits case for the Balancing Reserve service. The drivers for costs in securing positive reserve and negative reserve are quite different. Negative reserve requirements are often met at zero cost to ESO from the market provided position. Conditions where negative reserve is likely to be in short supply and hence valuable at day ahead are uncommon at present.

NBR was included in the Balancing Reserve service from launch to enable us to procure NBR if conditions demanded, as such we would expect to change the buy order price to a dynamic price reflective of negative reserve scarcity when those conditions exist and where we can forecast them confidently.

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
- **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.
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- **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

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

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
- **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