You have been joined in listen only mode with your camera turned off

Live captioning is available in Microsoft Teams

- Click on the 3 dots icon / 'More'
- Click 'Turn on live captions'

ESO Operational Transparency Forum 7 February 2024

### Introduction | Sli.do code #OTF

To ask questions live and provide us with post event feedback go to Sli.do and join 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 given on the slide.
- 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. 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: <u>https://forms.office.com/r/k0AEfKnai3</u>
- 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: <u>https://www.nationalgrideso.com/OTF</u>

#### Future deep dive / focus topics

<u>Today</u>

**Future** 

Managing Storm Conditions – date tbc

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

# Enhancing Energy Storage in the Balancing Mechanism (BM) – Webinar Invitation

On the **12 February at 14.30**, we will be hosting a webinar where we will be discussing the progress we have been making in regard to Enhancing Storage in the Balancing Mechanism (BM). In the webinar the plan is to share the statistics on the utilisation of OBP since it went live in December and cover additional measures that we are putting in place to improve efficiency of dispatch.

We had previously stated we would provide an OBP update at the Operational Transparency Forum today, however we felt a wider progress update on dispatch would be more beneficial. The dispatch statistics will also be published at the Operational Transparency Forum on 14 February.

Please register to attend the webinar using the following link and a calendar invite will be sent to you shortly.

Sign up for the webinar

#### New Dataset: Ancillary Services Important Industry Notifications

The dataset contains the latest update on important ancillary services procurement changes.

Please subscribe to get the latest update.

https://www.nationalgrideso.com/data-portal/ancillary-services-important-industry-notifications

#### C16 Annual Review 2024

#### We welcome industry's views on the proposed changes within our consultation.

Standard Condition Licence C16 "Procurement and use of balancing services" sets out the obligation on the ESO to publish five statements addressing the procurement and use of balancing services. In accordance with C16 of its Transmission Licence, we are conducting an annual review of all licence statements, we have proposed changes to the five statements which we invite industry to comment on.

Our official consultation is open from the 18th January 2024. Please respond by 5pm on 15th February 2024.

Please find the consultation documents on our <u>C16 webpage</u>.

If you would like to receive notification of future C16 events, consultations and updates, then please sign up to our <u>mailing list</u>.

Any questions, please contact <u>balancingservices@nationalgrideso.com</u>

# **Upcoming FSO Webinars**

Join us in our upcoming webinars to learn more about the new responsibilities of the FSO from Day 1, how these will evolve and how we can work together to deliver a net zero energy system that balances sustainability with affordability and security.

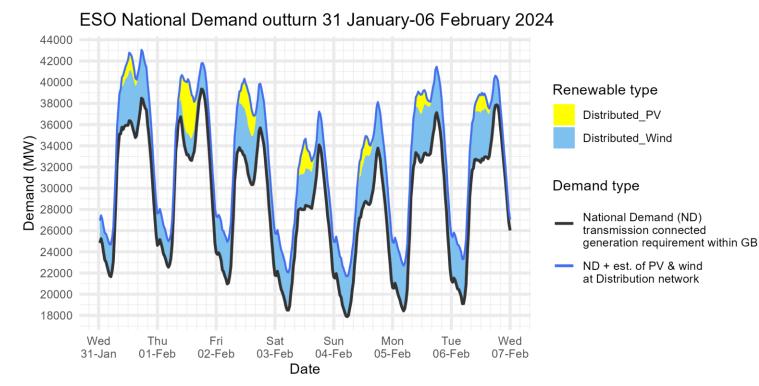
<b>Resilience and Security</b>	Strategic Planning	Market Development
26 February, 11:00	1 March, 10:30	6 March, 10:00
Find out how the FSO is establishing a Directorate of Resilience and Emergency Management that will take a whole system perspective when considering resilience and security for GB.	Find out how the FSO will deliver national and regional energy planning bringing electricity, gas and hydrogen plans together to efficiently deliver net-zero.	Find out how the FSO will drive the evolution of market arrangements across the whole energy system to facilitate security of energy supply and deliver investible markets at the most equitable cost to consumers.



Sign up via the registration links on the ESO website and LinkedIn Becoming the Future System Operator (FSO) | ESO (nationalgrideso.com)

**ESO** 

# 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.

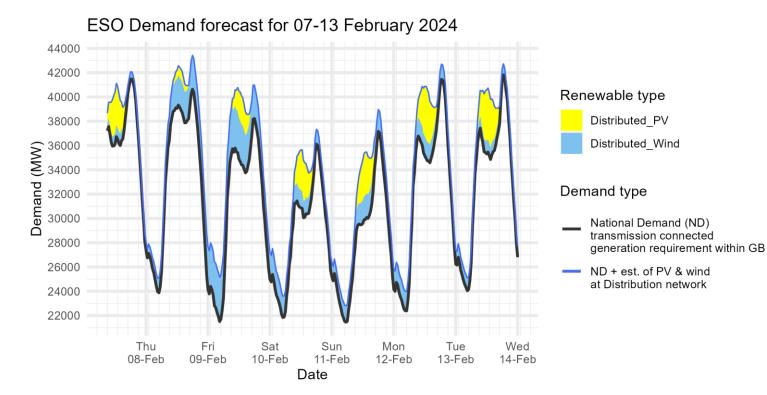
ND values do not include export on interconnectors or pumping or station load

Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it <u>does not include</u> 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 <u>ESO Data Portal</u> in the following data sets: <u>Historic Demand Data</u> & <u>Demand Data Update</u>

		FORECAST (Wed 31 Jan)		OUTTURN			
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Triad Avoidance est. (GW)	N. Demand adjusted for TA (GW)	Dist. wind (GW)
31 Jan	Evening Peak	38.2	4.5	38.5	0.0	38.5	4.6
01 Feb	Overnight Min	22.3	2.4	22.6	n/a	n/a	2.4
01 Feb	Evening Peak	40.3	2.2	39.4	0.0	39.4	2.4
02 Feb	Overnight Min	20.7	3.8	21.0	n/a	n/a	4.0
02 Feb	Evening Peak	36.0	4.1	35.7	0.0	35.7	4.2
03 Feb	Overnight Min	18.8	3.6	18.5	n/a	n/a	3.6
03 Feb	Evening Peak	33.4	3.2	34.1	0.0	34.1	3.1
04 Feb	Overnight Min	18.2	3.5	17.9	n/a	n/a	3.8
04 Feb	Evening Peak	34.2	3.6	33.8	0.0	33.8	4.3
05 Feb	Overnight Min	18.6	3.9	18.4	n/a	n/a	4.3
05 Feb	Evening Peak	37.7	3.5	37.1	0.0	37.1	4.3
06 Feb	Overnight Min	20.5	2.9	19.1	n/a	n/a	4.2
06 Feb	Evening Peak	38.2	2.9	37.9	0.0	37.9	2.6

#### 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.

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 <u>does not include</u> 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 <u>ESO Data Portal</u> in the following data sets: <u>Historic Demand Data</u> & <u>Demand Data Update</u>

		FORECAST (	Wed 07 Feb)
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)
07 Feb 2024	Evening Peak	41.5	0.6
08 Feb 2024	Overnight Min	23.9	1.2
08 Feb 2024	Evening Peak	40.6	2.8
09 Feb 2024	Overnight Min	21.5	3.7
09 Feb 2024	Evening Peak	38.2	2.8
10 Feb 2024	Overnight Min	21.8	1.8
10 Feb 2024	Evening Peak	36.1	1.2
11 Feb 2024	Overnight Min	21.5	1.4
11 Feb 2024	Evening Peak	37.2	1.8
12 Feb 2024	Overnight Min	22.4	1.6
12 Feb 2024	Evening Peak	41.4	1.3
13 Feb 2024	Overnight Min	24.0	1.1
13 Feb 2024	Evening Peak	41.8	0.9

# **Operational margins | Week Ahead**

#### How to interpret this information

This slide sets out our view of operational margins for the next week. We are providing this information to help market participants identify when tighter periods are more likely to occur such that they can plan to respond accordingly.

The table provides our current view on the operational surplus based on expected levels of generation, wind and peak demand. This is based on information available to National Grid ESO as of 7th February and is subject to change. It represents a view of what the market is currently intending to provide before we take any actions. The interconnector flows are equal to those in the Base case presented in the Winter Outlook.

The indicative surplus is a measure of how tight we expect margins to be and the likelihood of the ESO needing to use its operational tools.

For higher surplus values, margins are expected to be adequate and there is a low likelihood of the ESO needing to use its tools. In such cases, we may even experience exports to Europe on the interconnectors over the peak depending on market prices.

For lower (and potentially negative) surplus values, then this indicates operational margins could be tight and that there is a higher likelihood of the ESO needing to use its tools, such as issuing margins notices. We expect there to be sufficient supply available to respond to these signals to meet demand.

Day	Date	Notified Generation (MW)	Wind (MW)	IC Flows* (MW)	Peak demand (MW)	Indicative surplus (MW)
Thu	08/02/2024	43108	12870	3370	40830	14250
Fri	09/02/2024	43258	14520	3370	38710	16030
Sat	10/02/2024	42613	6740	3370	36830	11520
Sun	11/02/2024	43258	8350	3370	38240	12420
Mon	12/02/2024	44535	5310	3370	42380	6530
Tue	13/02/2024	44909	3480	3370	42910	4610
Wed	14/02/2024	43859	4460	3370	43310	4120

\*Interconnector flow in line with the Winter Outlook Report Base Case but will ultimately flow to market price

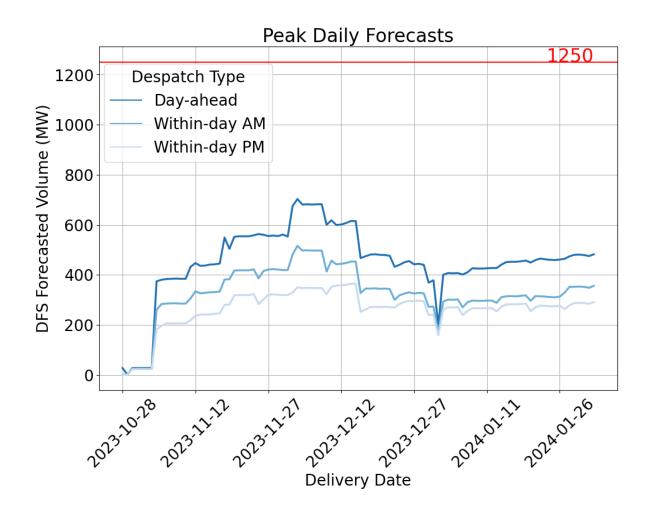
Margins are adequate for the next week.

### **Demand Flexibility Service**

Peak forecasts indicate the maximum MW's that participants expect to be able to deliver at various *despatch times*.

Participant's **expectation** of peak delivery increased late November and then it has stabilised at around 450 MW for day-ahead and around 300 MW for within day despatch.

Difference between **Within-day AM** and **PM** is decreasing. In line with learnings from participants on the response from end-consumers with shorter notice periods.



# **Demand Flexibility Service**

As of 7th February 2024, ESO has called the service for 8 Tests and 2 Live Events (see table below).

# From 1st Feb ESO moved all tests to be competitively run, i.e., the *Guaranteed Acceptance Price* (GAP) is set to zero.

ESO will be seeking to engineer a number of competitive scenarios to enhance our learnings around the commercials of DFS.

These changes do not change or amend our ability to access the service for a Live event.

Docnotch	Number of events			
Despatch Time	Live	Test (GAP £3,000/MWh)	Test (GAP £0/MWh)	
Day-ahead	2	2	0	
Within day 1	0	3	1	
Within day 2	0	2	0	
Total	2	7	1	

#### Latest events:

**Delivery Date:** 2<sup>nd</sup> February 2024

Period: 17:00 to 18:00 h

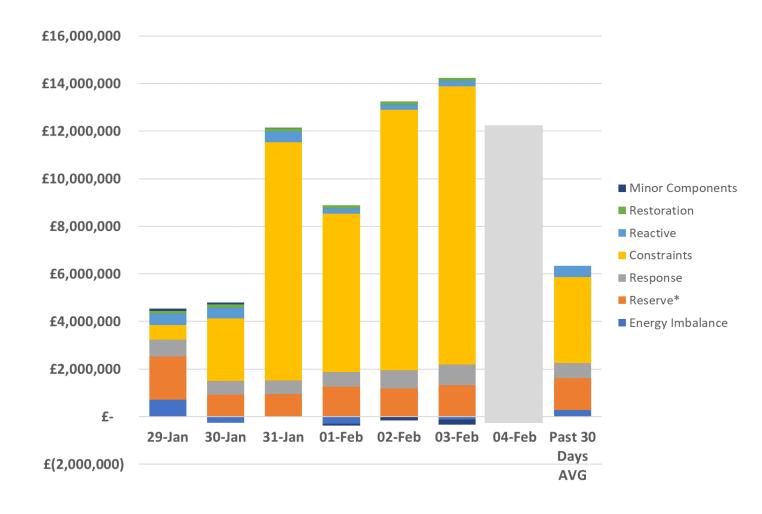
**Type:** Test, Within day 1, GAP = 0£/MWh

We received over 350 MW from 23 participants, with bids at a range of prices between £1,000/MWh and £5,799/MWh.

The maximum price accepted was £2,500/MWh. This secured around 80% of the MW target and captured a sufficient number of Units.

This will provide insight into the feasibility of the service and the capabilities of the participants at a different price level to previous tests.

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



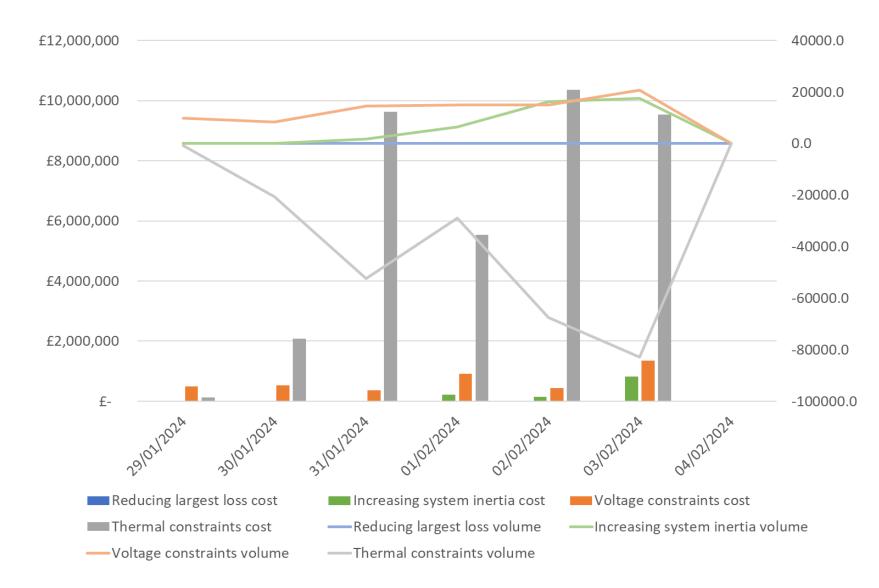
Date	Total (£m)
29/01/2024	4.5
30/01/2024	4.6
31/01/2024	12.1
01/02/2024	8.5
02/02/2024	13.1
03/02/2024	13.9
04/02/2024	11.6
Weekly Total	68.3
<b>Previous Week</b>	81.5

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, with the most significant costs on Wednesday, Friday and Saturday.

#### Voltage

Intervention was required to manage voltage levels throughout the week.

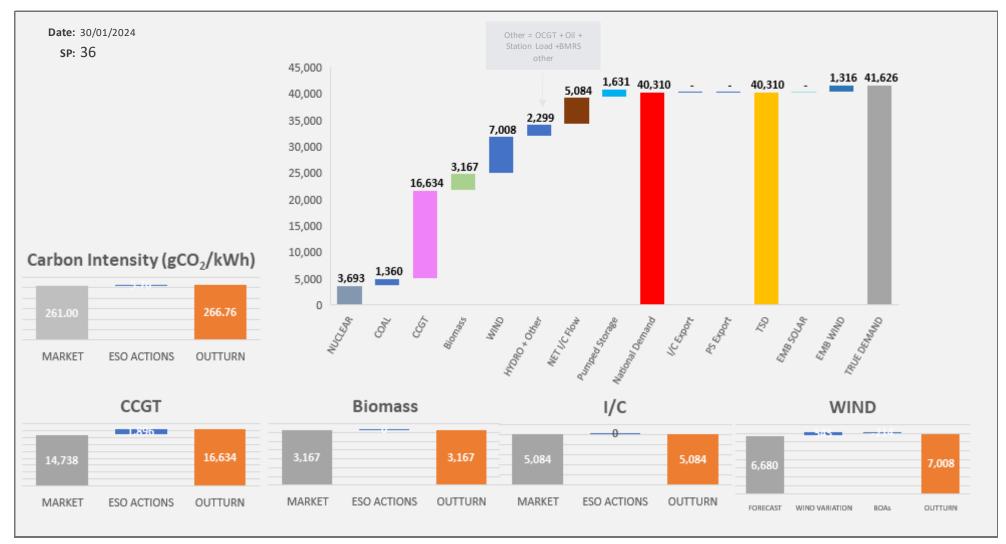
#### Managing largest loss for RoCoF

No intervention was required to manage largest loss.

#### **Increasing inertia**

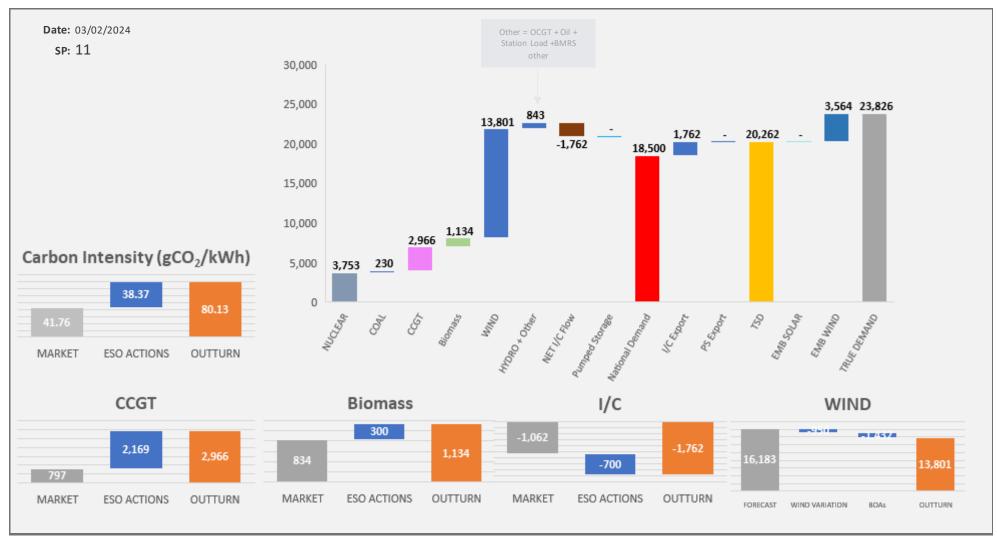
Intervention was required to manage System Inertia on Wed, Thur, Fri & Sat.

## ESO Actions | Tuesday 30 January – Peak Demand – SP spend ~£77k



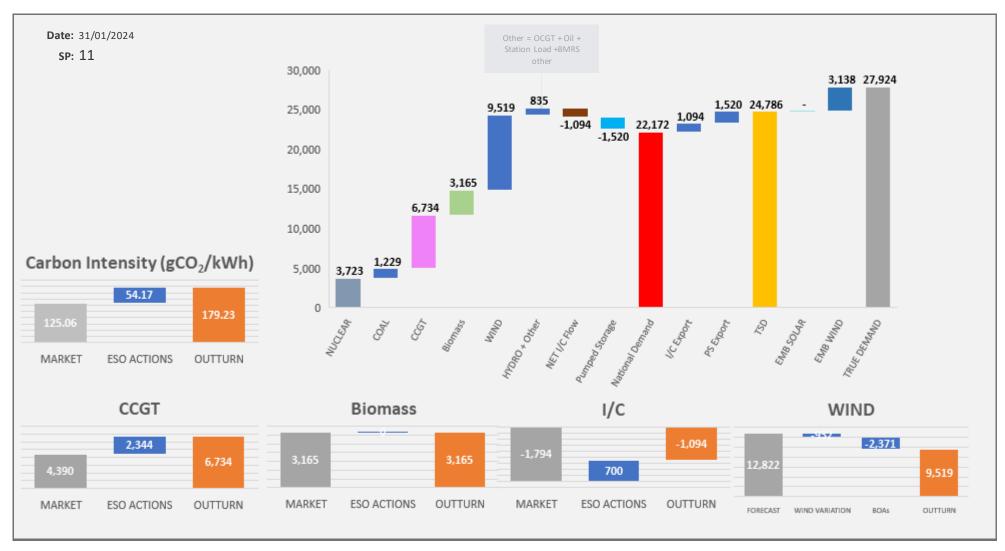
Carbon Intensity data on data portal: <u>https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions</u>

# ESO Actions | Saturday 3 February – Minimum Demand – SP Spend ~£255k



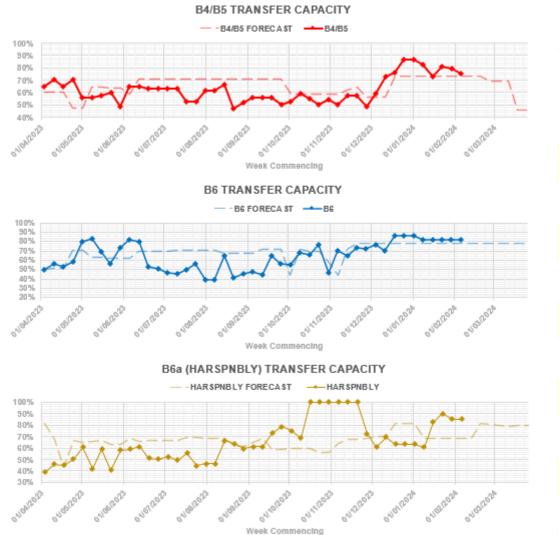
Carbon Intensity data on data portal: <u>https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions</u>

# ESO Actions | Wednesday 31 January – Highest SP Spend ~£397k

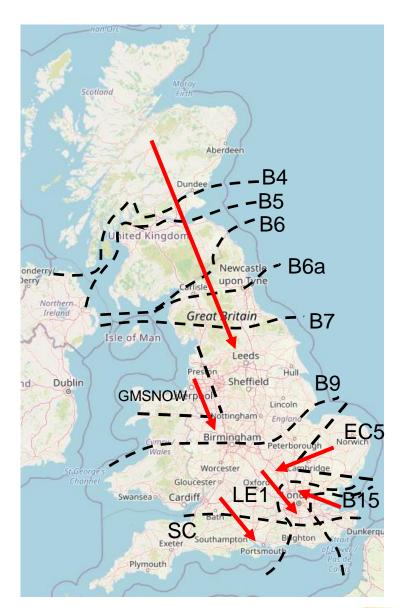


Carbon Intensity data on data portal: <u>https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions</u>

# Transparency | Network Congestion



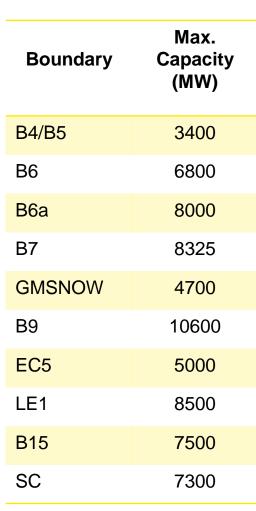
Boundary	Max. Capacity (MW)
B4/B5	3400
B6	6800
B6a	8000
B7	8325
GMSNOW	4700
B9	10600
EC5	5000
LE1	8500
B15	7500
SC	7300

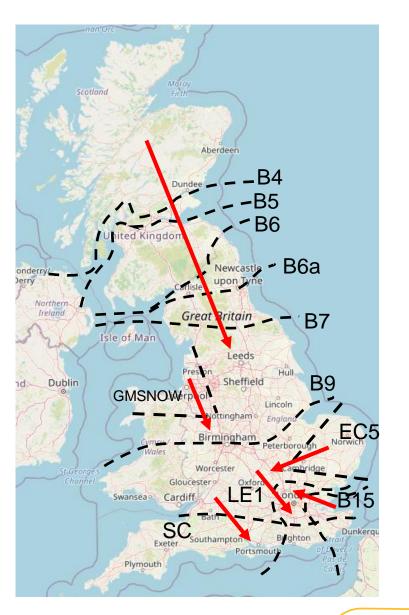


Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal: <u>https://data.nationalgrideso.com/data-groups/constraint-management</u>

# Transparency | Network Congestion

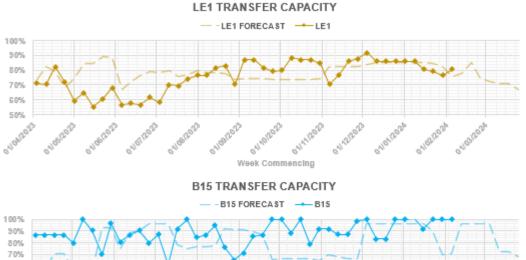






Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal: <u>https://data.nationalgrideso.com/data-groups/constraint-management</u>

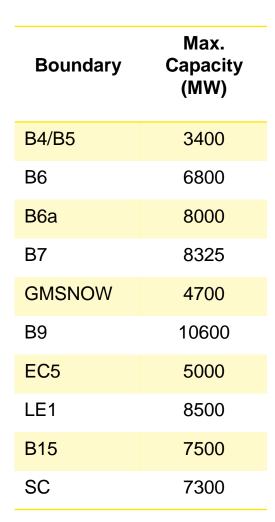
# Transparency | Network Congestion

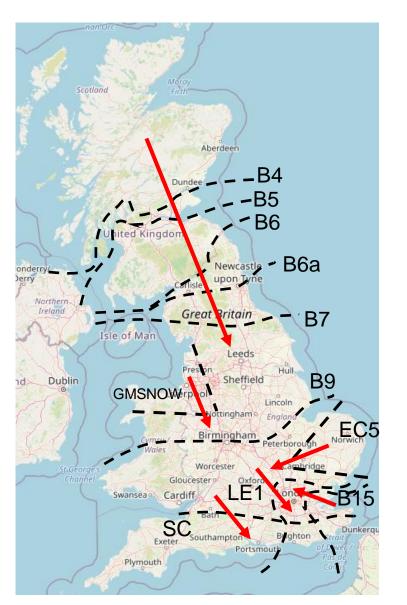












Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal: <u>https://data.nationalgrideso.com/data-groups/constraint-management</u>

Q: My initial Question was to confirm contract end dates for all Stability Phase 1 contracts and the response I got was September 2026 – March 2027 which is not specific enough. Can you publish a list showing specific operational date – end date for all contracts in the stability pathfinder phase 1?

A: We intend to publish dates of the expiry of these contracts on our ESO Data portal in the near future and will inform the OTF once this is available.

Q: Can you publish data on Reactive Utilisation for stability contracts? The information on this cannot be found in the ORPS.

A: Assuming the question is regarding Obligatory Reactive Power Services data on ESO Data Portal.

We are working to include the Stability Phase 1 units in the Reactive Utilisation Data file that is updated each month. We will initially be adding data for these units for the period October 2023 to December 2023 to the file, before adding historical data going back to 2021.

Q: Is it acceptable for a site which is providing static FFR (Firm Frequency Response) to be triggered remotely, using a frequency transducer located at some central location to detect frequency deviations in real time and send a signal (e.g. over internet) to cause a site or sites to respond? To be clear, I am not asking about remote "arming" of a frequency relay located on site, I am asking about the actual response to the event being initiated using remote comms.

A: Thanks for this question, yes this is within the parameters of the service. The "relay" can be triggered via a remote instruction based on centralised frequency measurement.

Note that the same expectations apply as for an onsite relay e.g. the site should not respond when not contracted even if other sites in the portfolio are responding. This is referred to in the terms as "failure to arm or disarm the relay". Providers must also ensure that they can still meet the delivery time of 30 seconds, this is inclusive of any delay introduced by centralised monitoring and control.

We would also note that providers may want to consider resilience and redundancy as part of a centralised measurement to ensure that the national frequency can still be observed in the event of for example, a local distribution level power outage.

It is crucial that the site output is independently metered on site to be able to demonstrate a deviation from the baseline if responding to a frequency event. We will ask for asset level metering to be submitted to determine whether the unit as a whole has performed as required.

As we look to develop our enduring static response service, we will be considering whether this approach provides robust enough response and how locational frequency deviations should be factored into service delivery.

Please contact our team on <u>commercial.operation@nationalgrideso.com</u> if you would like to know more about the prequalification testing required to participate in the sFFR market.

Q: The max volume procured in Dynamic Containment High (DC-H) has been capped over late December and January to 1250MW with many EFA blocks reaching this threshold, is there a reason it has been limited to this value given in early December the service volume exceeded this value? If it is reaching this limit on a regular basis does that suggest more volume needs to be procured?

A: There is no cap in our DC-H requirement. Recently, the requirement has been close to a default value set into our system that causes rounding up giving a requirement of 1250 MW. If the requirement exceeds this value, the required level would be procured. We are in the process of updating our internal systems to allow a smoother calculation around default values.

# Q: Would you be able to explain why DM (Dynamic Moderation) requirements (and use of DM) jumped to 330MW/480MW on 23rd Jan for certain EFA blocks? Thanks very much

A: There was a Balancing Mechanism IT Systems outage on the 23rd January so the Dynamic Moderation requirement was increased across the period of the outage to help manage the system through this period.

A new dataset has been created to provide updates on important ancillary services procurement changes. Please subscribe to get the latest update (link).

Q: There have been multiple instances recently of bids and offer acceptances for priced out batteries. The worst of this recently was Sunday 4th Feb in SP41, where 2 units saw a combined 12.5MWh of offer volume at £10,000/MWh, costing NGESO (and the consumer?) £125,000. No manifest error has been published.

A: Regarding that "No manifest error has been published" – ESO can confirm the manifest error was published through the BMRS email alerts on Sunday evening in accordance with BSCP 14: Processing of manifest error claims.

ELEXON Portal Email Alert	ELEXON Portal Email Alert
You are receiving this email because you subscribed to receive email alerts when BMRS System Warnings are published. A new system warning has been published by National Grid (time published in GMT). The System Warning is:	You are receiving this email because you subscribed to receive email alerts when BMRS System Warnings are published. A new system warning has been published by National Grid (time published in GMT). The System Warning is:
2024-02-04 22:31:52	2024-02-04 22:32:30
From: Power System Manager - National Grid Electricity Control Centre TRANSMISSION COMPANY MANIFEST ERROR CLAIM NOTIFICATION A Manifest Error Claim has been raised by National Grid in relation to an accepted Offer number 3235 for BM Unit AG-HLIM03 for Settlement Period 41 on 04/02/2024. The affected Offer price is 10,000. COMMENTS: Notification Issued at 22:30 hours 04/02/2024 Issued by Peter Chandler National Grid Electricity Control Centre	From: Power System Manager - National Grid Electricity Control Centre TRANSMISSION COMPANY MANIFEST ERROR CLAIM NOTIFICATION A Manifest Error Claim has been raised by National Grid in relation to an accepted Offer number 9601 for BM Unit AG-HLIM04 for Settlement Period 41 on 04/02/2024. The affected Offer price is 10,000. COMMENTS: Notification Issued at 22:31 hours 04/02/2024 Issued by Peter Chandler National Grid Electricity Control Centre

These can be found on the Elexon website at: <u>ELEXON Portal; BMRS system warnings</u> or there is a subscription option to receive messages by email.

#### Q: Firstly, will these offers be included in BSUoS, and therefore be passed on to the consumer?

A: BSCP 14 is specifically designed to ensure the manifest error claim is processed and decided in time for the adjusted prices to be included in the appropriate Initial Settlement Run. This ensures the original Manifest Error does not have any impact on the imbalance pricing, settlements process and BSUoS payers. BSCP 14: Balancing and Settlement Code process 14. This can be found on the Elexon website at: <u>BSCP 14: Processing of Manifest Error Claims - Elexon Digital BSC</u>

Q: Secondly, last time this occurred, OBP was turned off for BESS units for a month while the issue was fixed. Are you expecting to do this again? Many thanks

A: The specific instance referred to on Sunday was not due to a defect with OBP and OBP remains in service. The optimiser worked as expected, the control engineer requested a requirement for MWs but the only units that could satisfy the full requirement had high prices. The user was not given an adequate warning that high-cost instructions were in the queue. There were correct warnings produced by OBP, but these were not clear to the user. We have now improved the warning messages for users and these were implemented in OBP on 6 Feb. Further information on OBP progress will be provided at our webinar on 12th February (more details on slide 4).

Q: In last week's OTF slides (slide 26) the ESO said a fix had been developed for the issue with OBP clipping high price bands (£10,000/MWh) and that this will be implemented this week (w/c 5th February). It appears that a similar issue occurred in OBP on Sunday 4th February (i.e. with very high ~£10,000/MWh values again). Please can you provide an update on the fix in OBP and when this will be implemented?

A: The specific issue on Sunday 4 February was not due to an OBP defect (see previous question). A fix for clipping high price bands for a different rare case which was observed prior to Sunday was implemented in OBP on 06 February. For the latest on OBP progress please join our webinar on 12th February (more details on slide 4).

## **Outstanding questions**

Q: Does INDO (used to determine Triads) exclude Battery Storage? The Elexon Glossary doesn't specify it, but it seems reasonable given Pumped Storage is excluded.

INDO (Initial National Demand Out-Turn) is a term defined in the BSC. The glossary definition referred to in the question is provided at this link. <u>Glossary Term: Initial National Demand Out-Turn - Elexon BSC</u>

We are still working on this question and we will aim to provide an answer to the OTF as soon as possible.

#### 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.
- 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: <a href="https://www.nationalgrideso.com/what-we-do/electricity-national-control-centre/operational-transparency-forum">https://www.nationalgrideso.com/what-we-do/electricity-national-control-centre/operational-transparency-forum</a>
- **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



# **Audience Q&A Session**

(i) 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

# Appendix



#### 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 Sli.do code #OTF
  - In advance (before 12:00 on Monday) at https://forms.office.com/r/k0AEfKnai3
  - At any time to <u>box.NC.Customer@nationalgrideso.com</u>
- All questions asked through Sli.do will be recorded and published, with answers, in the Operational Transparency Forum Q&A on the webpage: <u>Operational Transparency Forum | ESO (nationalgrideso.com)</u>
- 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