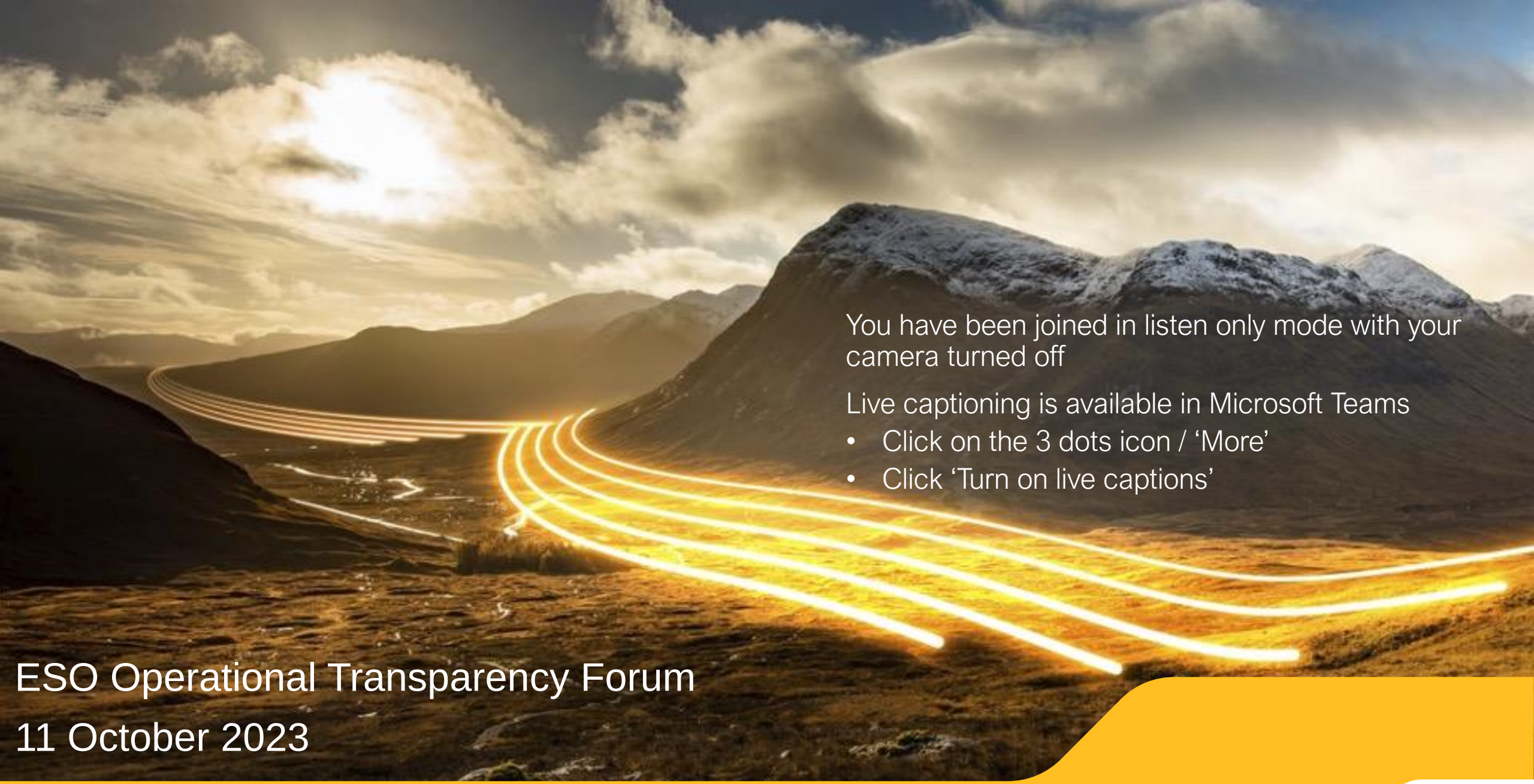


You have been joined in listen only mode with your camera turned off

Live captioning is available in Microsoft Teams

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

ESO Operational Transparency Forum

11 October 2023

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 next 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.

Stay up to date on our webpage: https://www.nationalgrideso.com/OTF

Future deep dive / focus topics

Today

Dynamic System Monitoring – questionnaire request

Future

Winter Deep Dive – 18th October – potentially an extended session

Transmission Network Development – 25th October – this will cover questions not covered in the constraints deep dive

Scottish Oscillations – following conclusion of current investigative work

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

ESO's Winter Markets Forum

We are delighted to announce details of our next Markets Forum.

Date: 8th November (in person event only)

9am : Breakfast session (optional) Building blocks of transmission charging

10am-4pm : Main event: An overview of our key market priorities, interactive breakout sessions, industry roundtable panel, Q&A concluding with an optional post event networking

Location: Park Plaza Hotel, Westminster Bridge, London

Sign up here

In the meantime, if you have any questions or items you'd like to see included on the day, contact Karen Thompson-Lilley (Markets Customer & Stakeholder Strategy Manager) at karen.thompson-lilley@nationalgrideso.com

Cross Border Balancing Webinar – 19th October 2023

Following Brexit, National Grid ESO have been working with a market expert, Compass Lexecon, on the market options for Cross Border Balancing.

National Grid ESO and Compass Lexecon are inviting you to the Cross Border Balancing Webinar on **19th October 2023**.

In this webinar we will be sharing with you the results of the modelling of market options on Cross Border Balancing and you will have an opportunity to ask questions to both NGESO and Compass Lexecon.

You can register for the event here.

We look forward to welcoming you at this webinar.

Dynamic Moderation Requirement

As mentioned in the latest Frequency Response Products Market Information Report, based on a review of system conditions, we have increased DM requirements and value DM volumes in offsetting our minimum dynamic response requirements.

We are implementing this change in a phased manner. The first step, to firmly procure 100MW of DM for all EFAs started on **1st October**.

We will continue reviewing our requirements and communicate further changes via the DM requirement forecasts publication.

EBR Article 18 Consultation for Balancing Reserve

Please note that National Grid ESO have now launched an EBR Article 18 Consultation on the contractual terms for a Balancing Reserve service.

The consultation opens until **17:00 on 26 October 2023**. Balancing Reserve consultation documents can be found on our website via the link/button below, and include:

- Balancing Reserve Service Terms
- Balancing Reserve Procurement Rules
- Consultation Proforma

Other supporting documentation is also provided.

Please review the documentation and provide your responses using the Consultation Proforma. Your response should be sent to: box.futureofbalancingservices@nationalgrideso.com, and please use 'Balancing Reserve Consultation Response' in the return subject line.

View Consultation Documents

Request for feedback – Per BMU wind forecast publishing

ESO is seeking to be more transparent and publish the individual wind BMU forecasts it creates and uses, in addition to the currently published total GB forecast.
This new publication would eventually include day-ahead forecast and within-day forecasts.

Initially, ESO will publish the data with anonymised (or removed) IDs. However, in due course, we would seek to publish the forecasts alongside their recorded BMU ID and/or recognised official windfarm name.

At this time, we are seeking any feedback/concerns/comments, which we will consider before publishing the latter BMU ID forecasts.

Please leave your feedback via the link, and feel free to share this with any other interested parties.

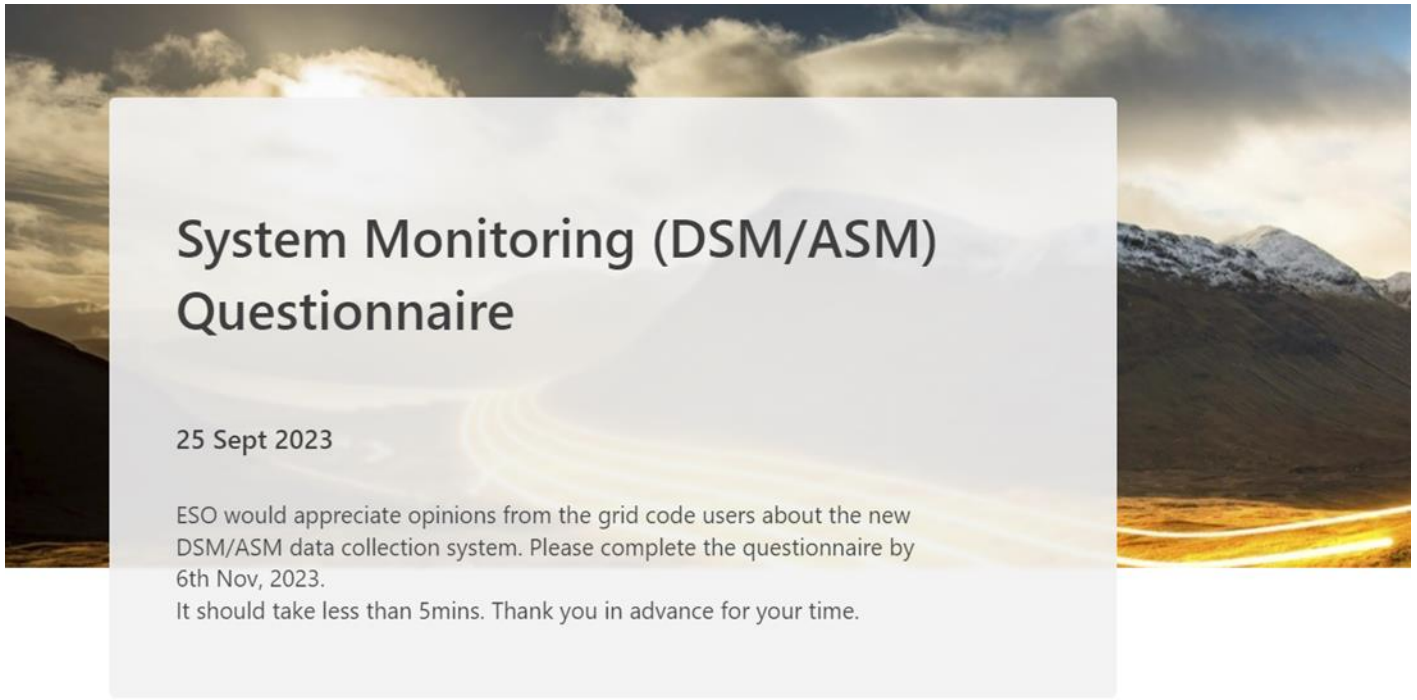
This link will remain active for 3 weeks, until **Monday 23 October**.

System Monitoring (DSM/ASM) Questionnaire

ESO is in the process to design a new system to seamlessly access Dynamic System Monitoring (DSM) data and Ancillary Services Business Monitoring (ASM) data from generation modules and interconnectors in England, Wales and Scotland.

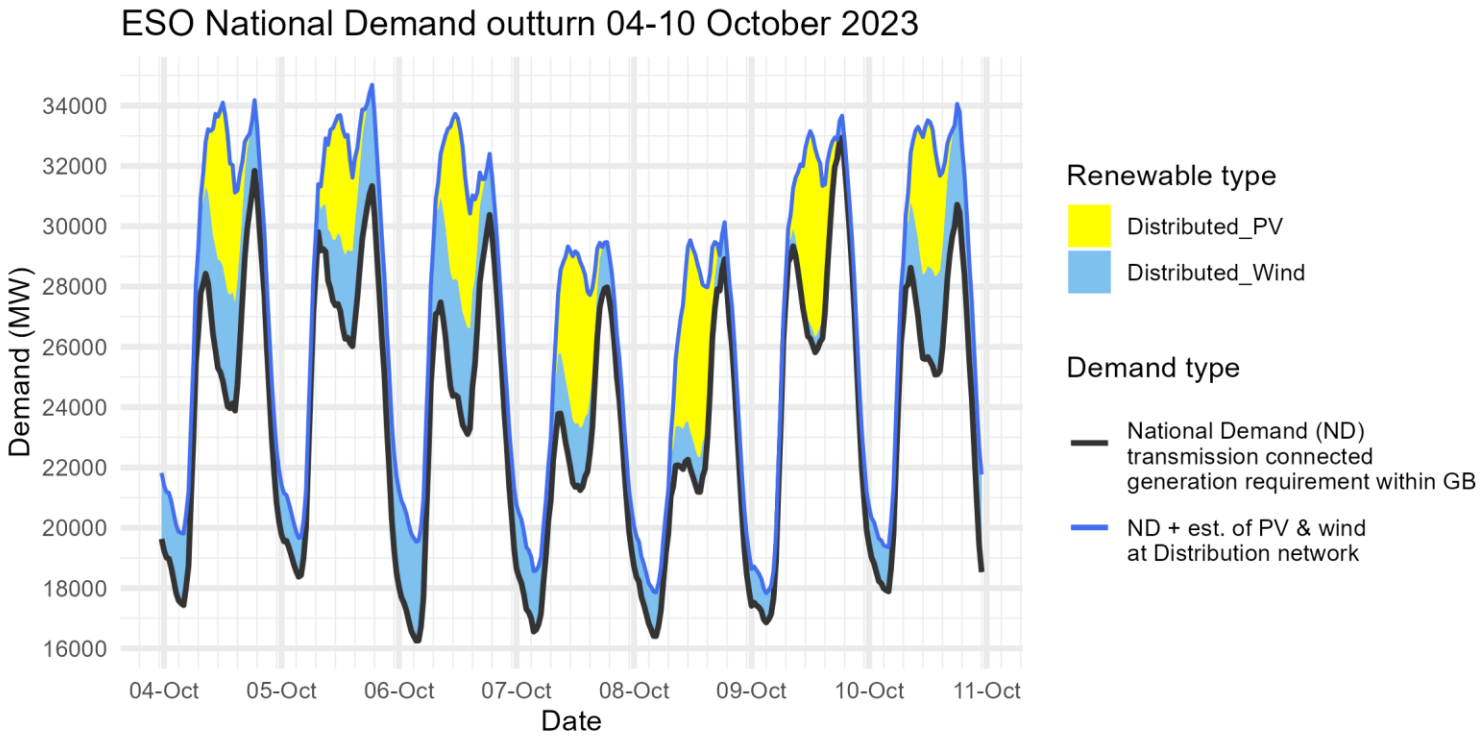
The data will be used to carry out post fault analysis, manage network risk and verify compliance.

ESO would appreciate opinions from you before implementing the project. A questionnaire has been sent out to all grid code users.



If you have not received it yet, please click here to complete the questionnaire or contact us to update your contact detail: box.SystemMonitoring@nationalgrideso.com

Demand | Last week demand out-turn



Date	Forecasting Point	FORECAST (Wed 04 Oct) National Demand (GW)	FORECAST (Wed 04 Oct) Dist. wind (GW)	OUTTURN National Demand (GW)	OUTTURN Dist. wind (GW)
04 Oct	Evening Peak	31.6	2.4	31.8	2.3
05 Oct	Overnight Min	18.8	1.4	18.4	1.3
05 Oct	Evening Peak	31.7	2.8	31.3	3.4
06 Oct	Overnight Min	16.8	3.0	16.3	3.3
06 Oct	Evening Peak	29.2	3.3	30.4	2.0
07 Oct	Overnight Min	16.0	2.6	16.6	2.0
07 Oct	Evening Peak	28.6	1.7	28.0	1.5
08 Oct	Overnight Min	16.6	1.4	16.4	1.4
08 Oct	Evening Peak	29.7	1.5	28.9	1.2
09 Oct	Overnight Min	17.3	1.6	16.9	1.0
09 Oct	Evening Peak	32.6	2.1	32.9	0.7
10 Oct	Overnight Min	17.4	2.3	17.9	1.5
10 Oct	Evening Peak	32.1	2.9	30.7	3.3

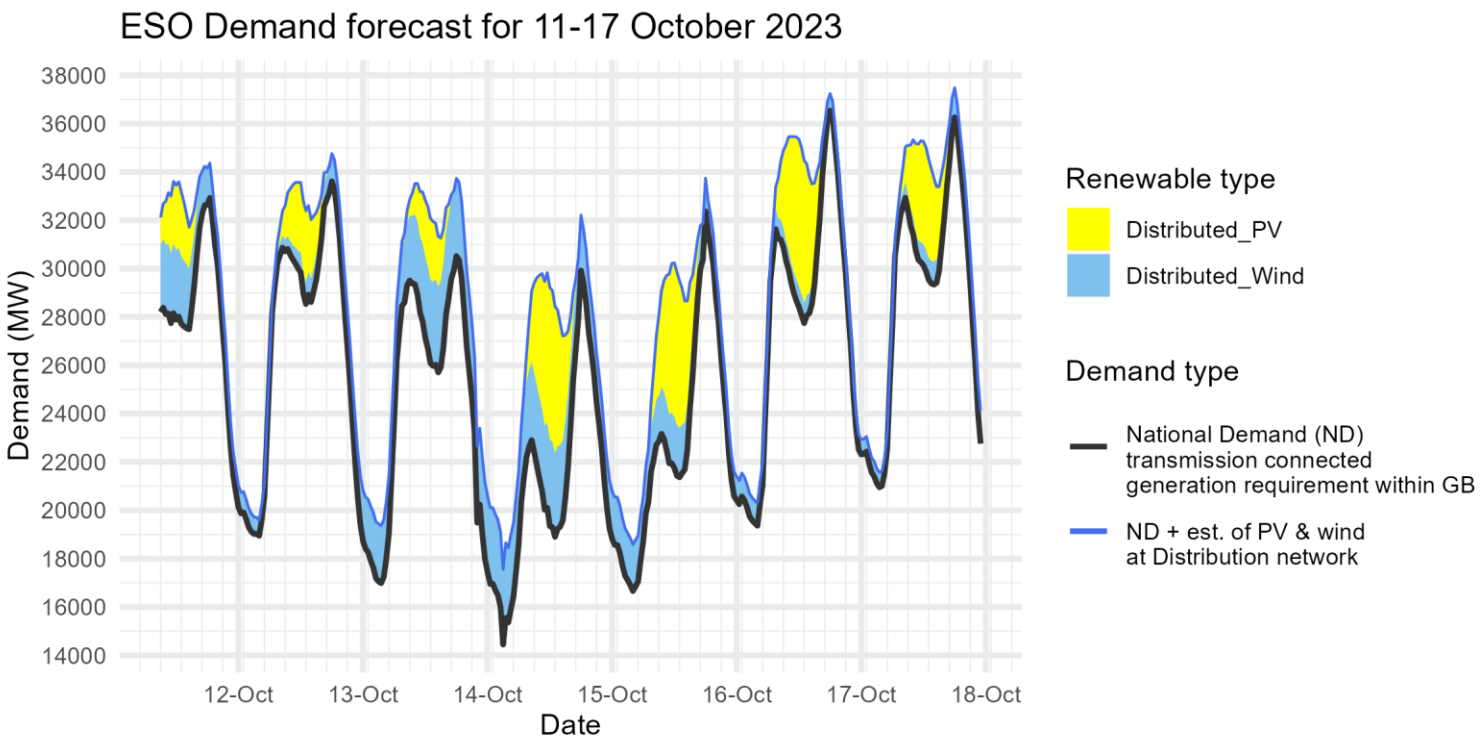
The black line (National Demand ND) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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

Demand | Week Ahead



		FORECAST (Wed 11 Oct)	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)
11 Oct 2023	Evening Peak	32.9	1.4
12 Oct 2023	Overnight Min	18.9	0.7
12 Oct 2023	Evening Peak	33.6	1.1
13 Oct 2023	Overnight Min	17.0	2.4
13 Oct 2023	Evening Peak	30.5	3.2
14 Oct 2023	Overnight Min	14.4	3.1
14 Oct 2023	Evening Peak	29.9	2.3
15 Oct 2023	Overnight Min	16.7	1.9
15 Oct 2023	Evening Peak	32.4	1.4
16 Oct 2023	Overnight Min	19.4	0.9
16 Oct 2023	Evening Peak	36.5	0.7
17 Oct 2023	Overnight Min	21.0	0.6
17 Oct 2023	Evening Peak	36.3	1.0

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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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.

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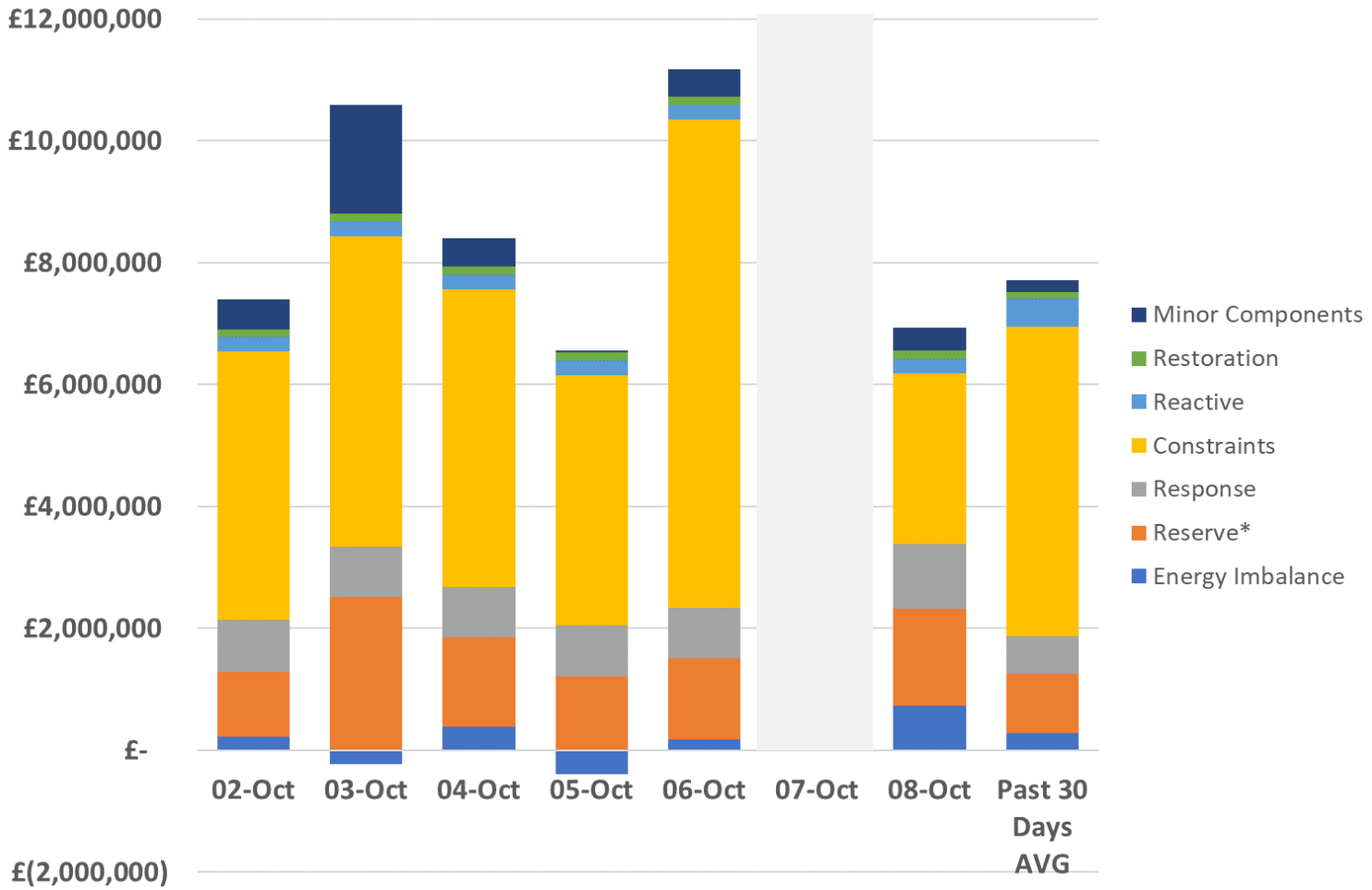
ESO Actions | Category costs breakdown for the last week



Date	Total (£m)
02/10/2023	7.4
03/10/2023	10.4
04/10/2023	8.4
05/10/2023	6.2
06/10/2023	11.2
07/10/2023	0
08/10/2023	6.9
Weekly Total	50.4
Previous Week	90.7

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

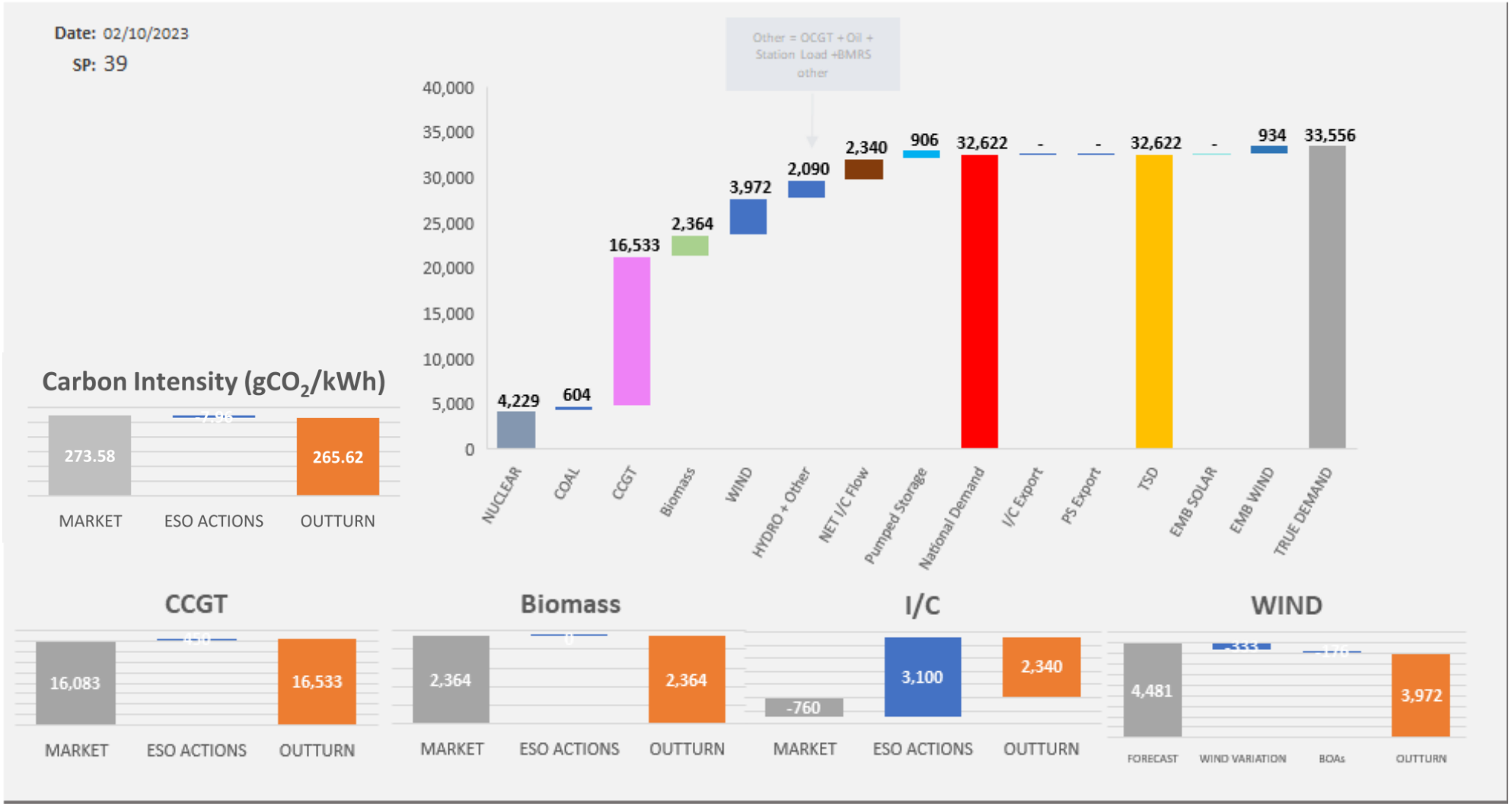
Thermal – network congestion
Actions were required to manage thermal constraints throughout the week with the most significant costs on Monday and Friday.

Voltage
Intervention was required to manage voltage levels throughout the week.

Managing largest loss for RoCoF
No intervention was required to manage largest loss.

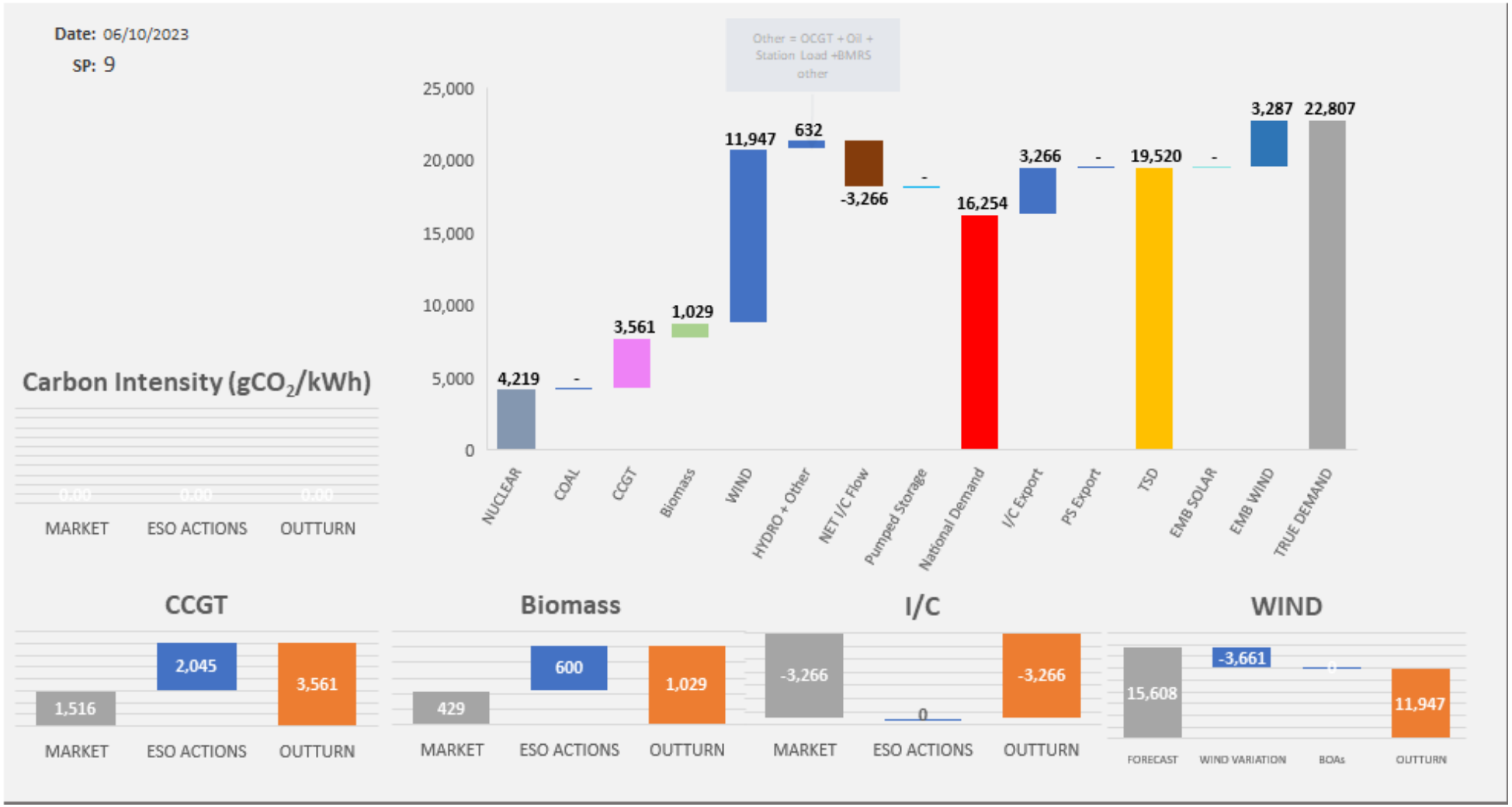
Increasing inertia
Intervention was required to manage System Inertia throughout the week except Monday.

ESO Actions | Monday 02 October – Peak Demand – SP spend ~£184k



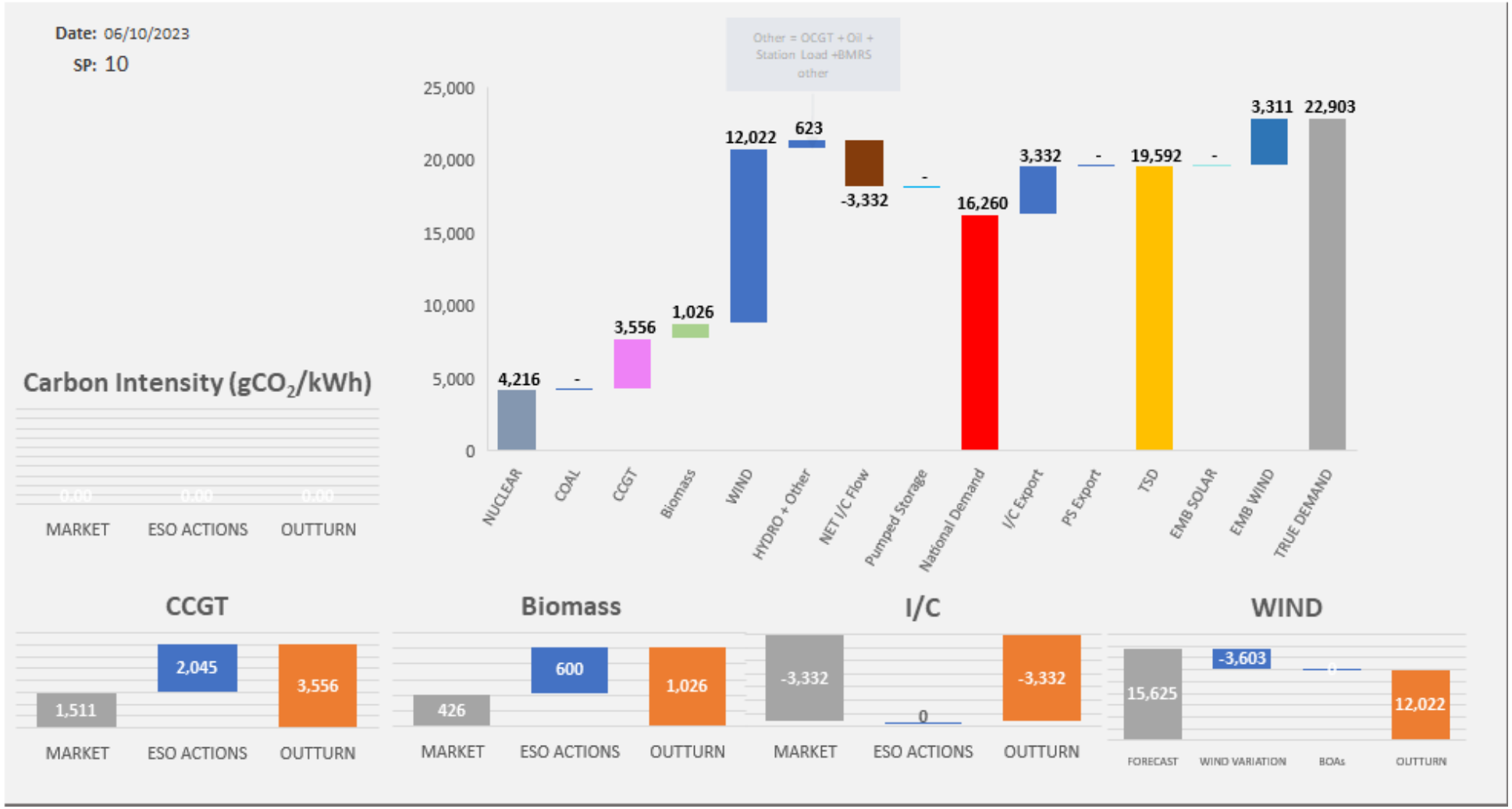
Carbon Intensity data on data portal: https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions

ESO Actions | Friday 06 October – Minimum Demand – SP Spend ~£424k



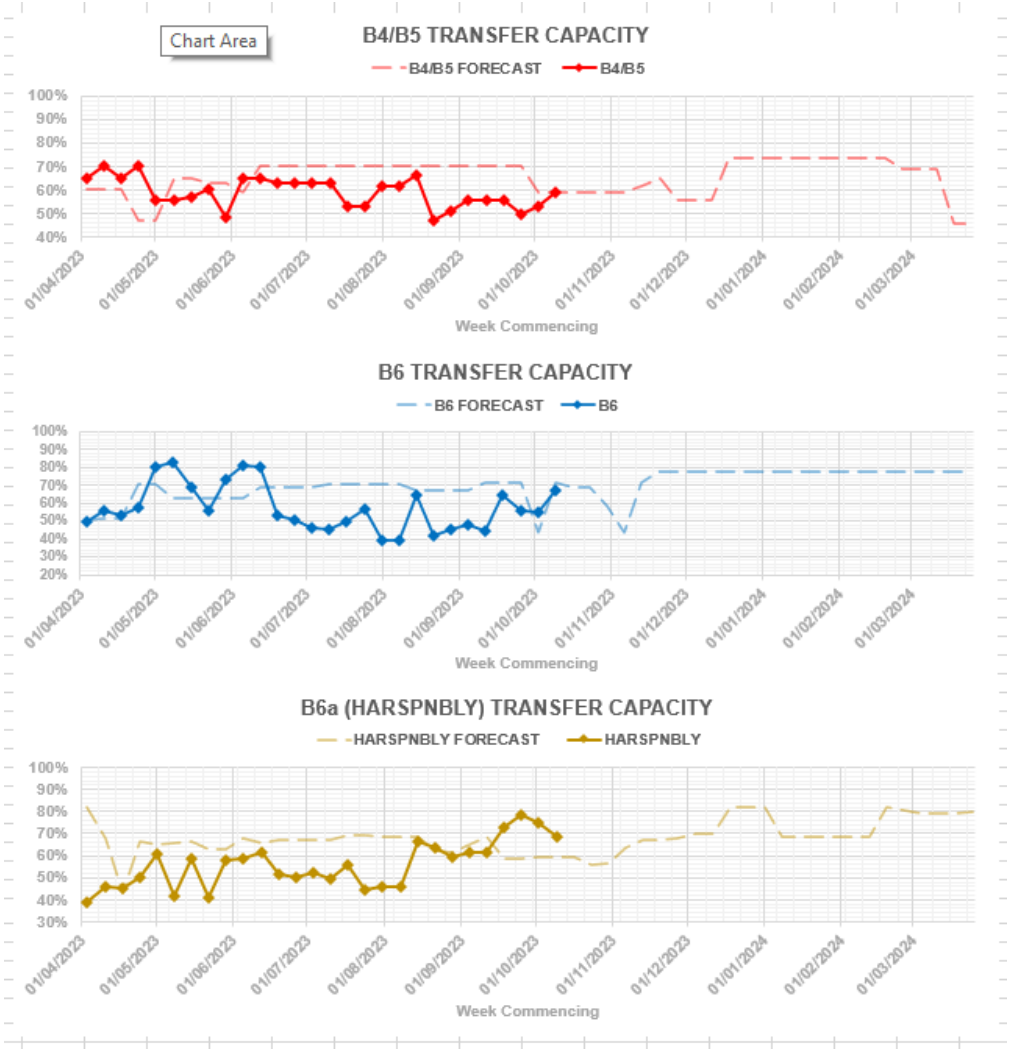
Carbon Intensity data on data portal: https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions

ESO Actions | Friday 06 October – Highest SP Spend ~£425k

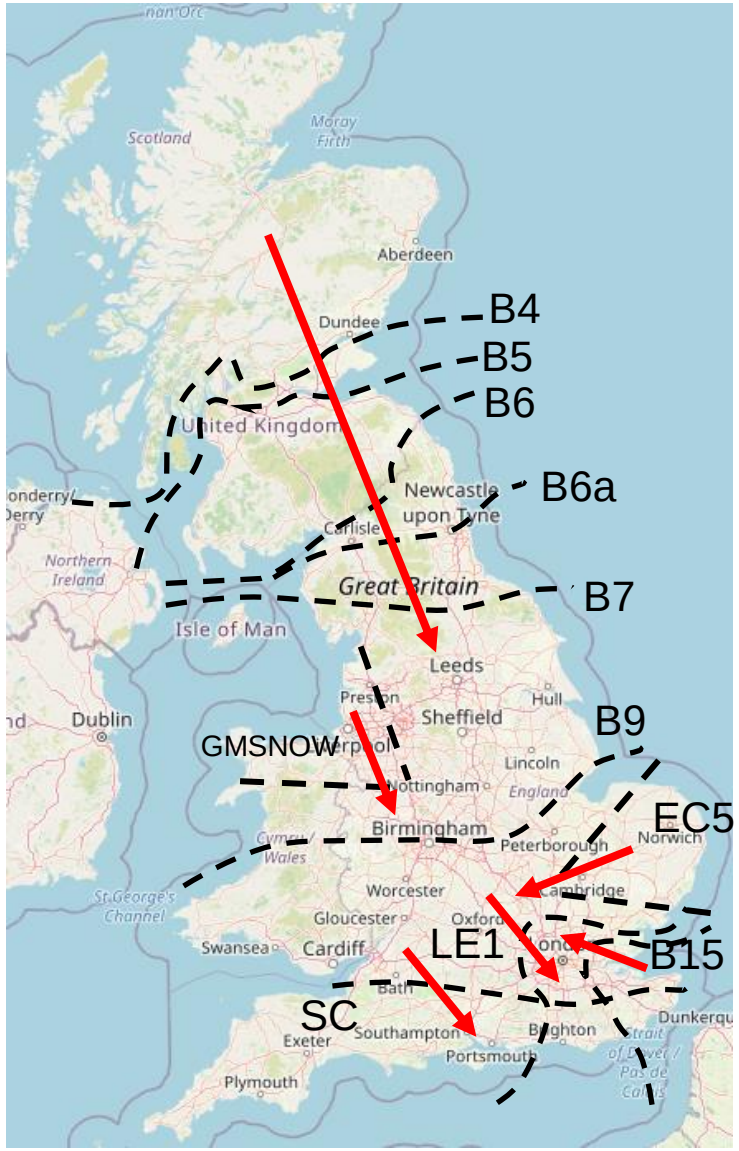


Carbon Intensity data on data portal: https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions

Transparency | Network Congestion

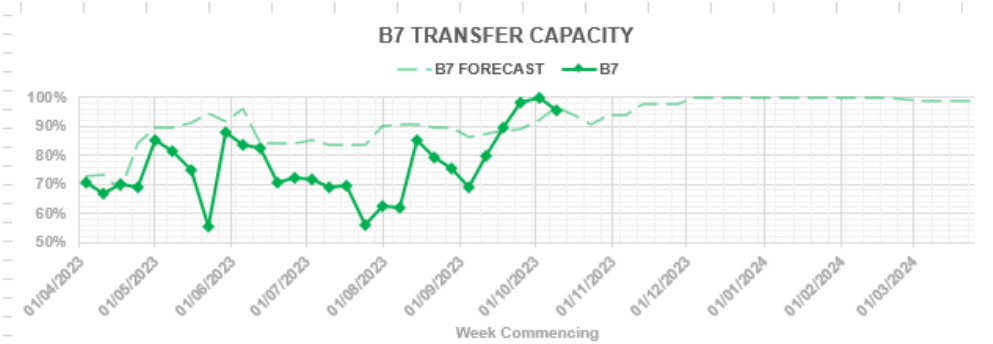


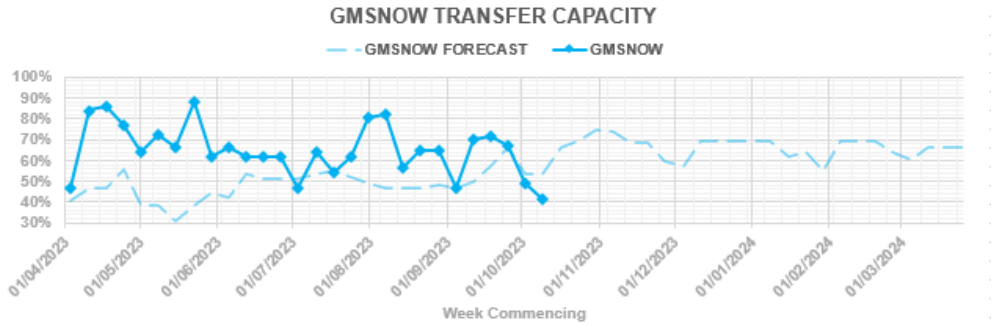
Boundary	Max. Capacity (MW)
B4/B5	3400
B6	6800
B6a	8000
B7	8325
GMSNOW	4700
B9	10600
EC5	5000
LE1	8500
B15	7500
SC	7300

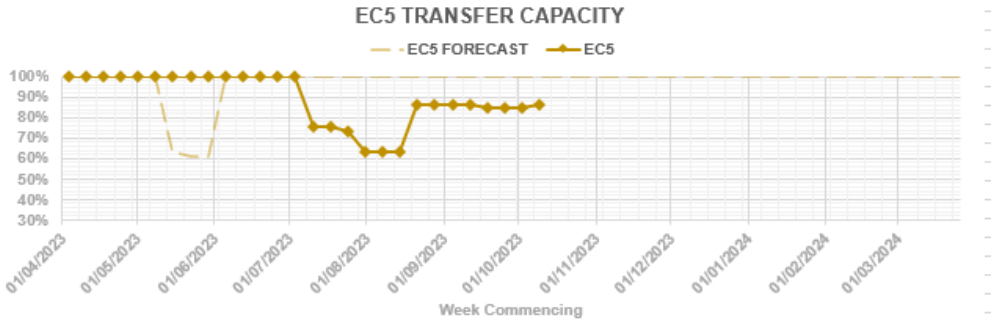


Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:
https://data.nationalgrideso.com/data-groups/constraint-management

Transparency | Network Congestion







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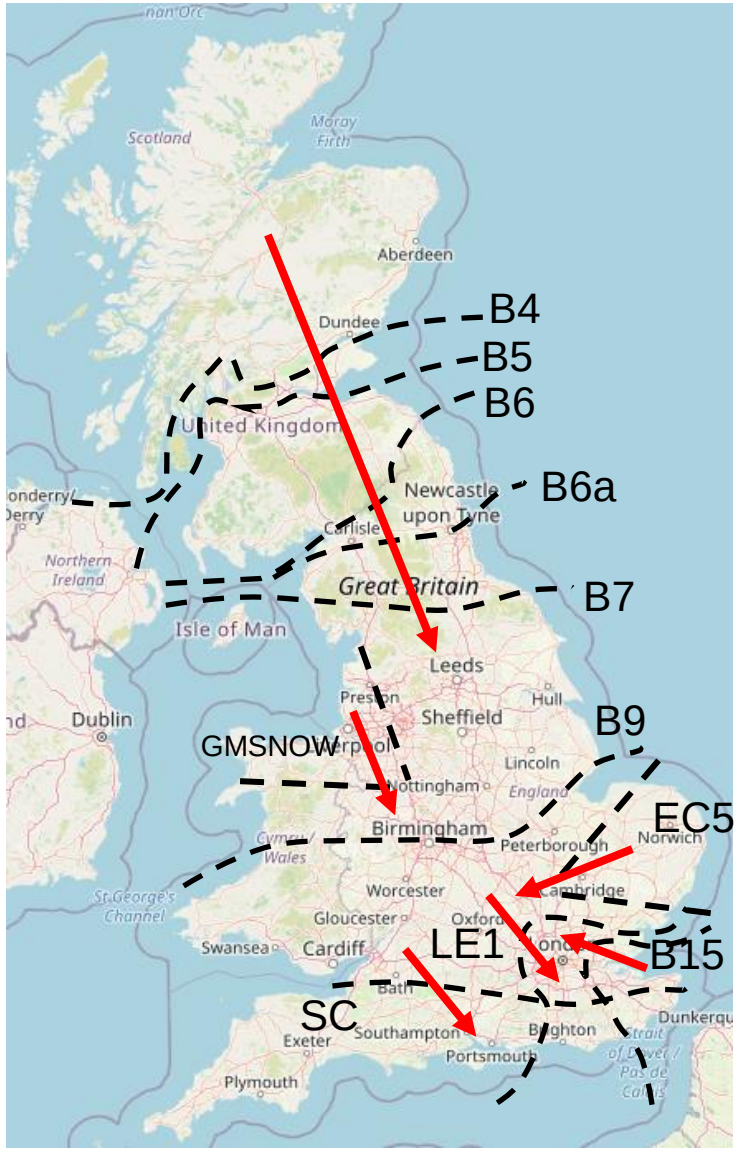

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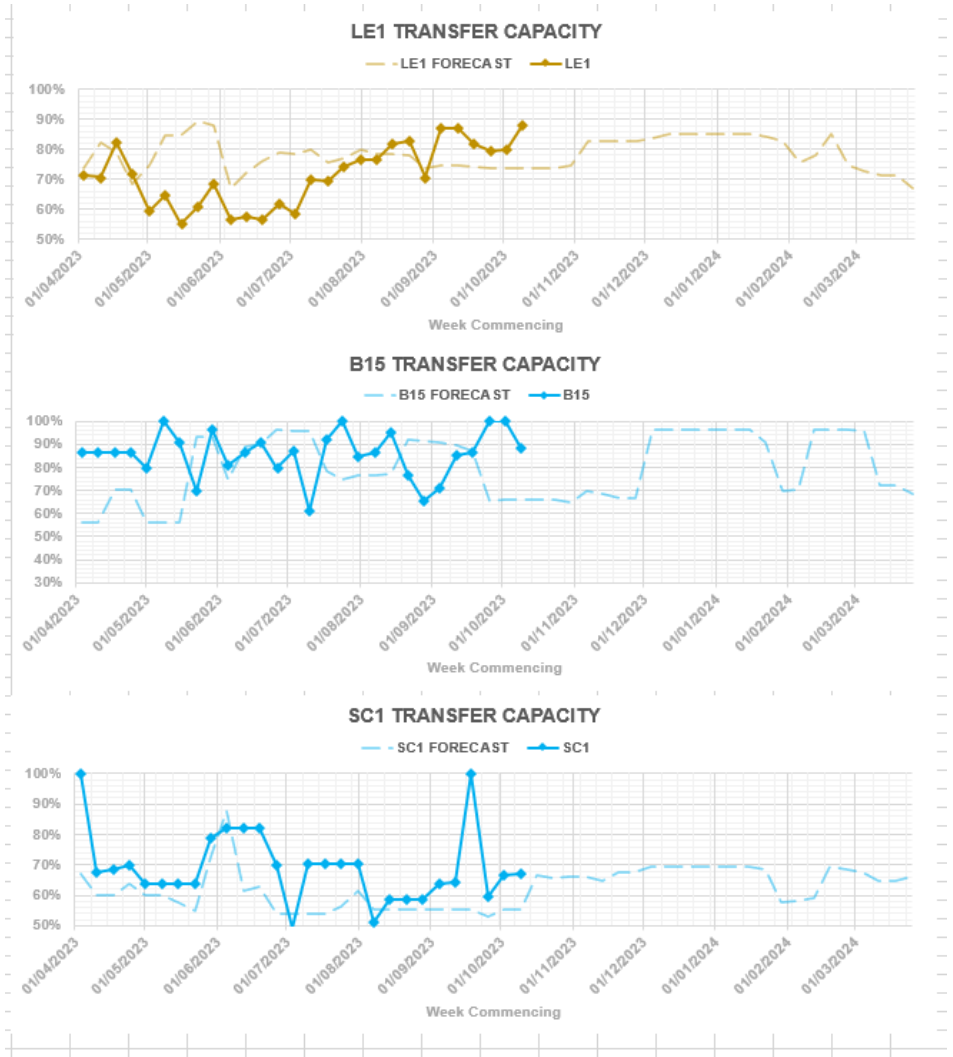
Transparency | Network Congestion



Boundary	Max. Capacity (MW)
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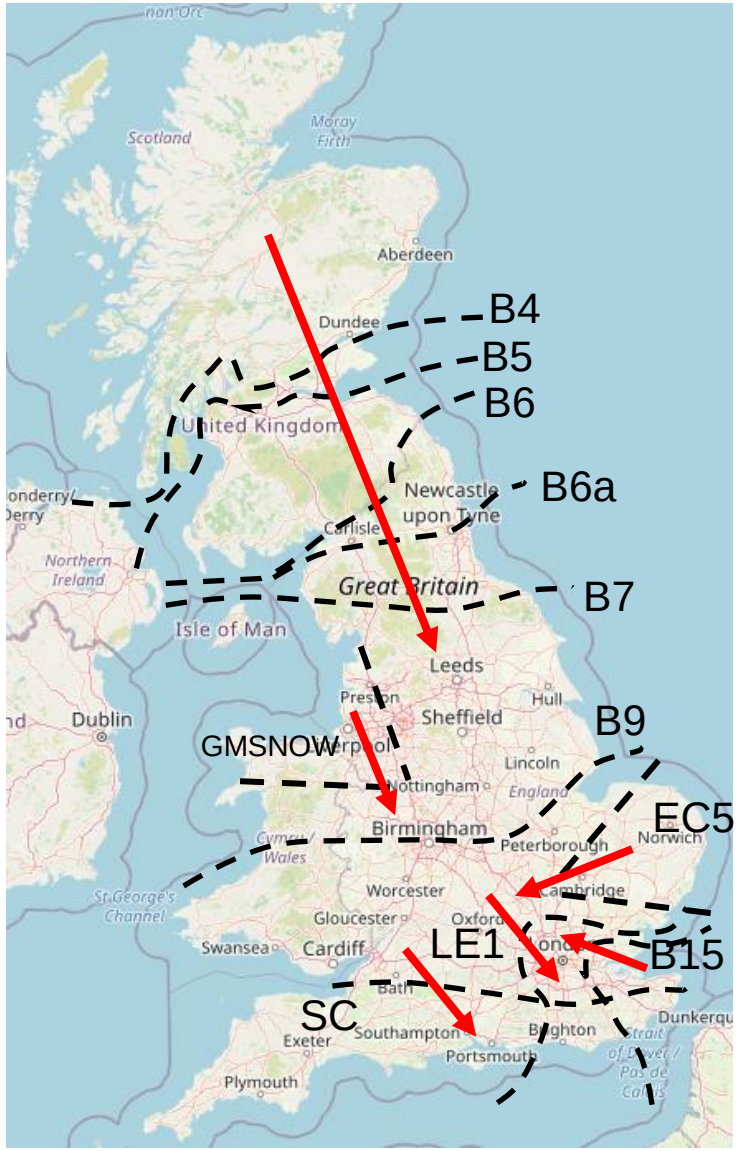


Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:
https://data.nationalgrideso.com/data-groups/constraint-management

Previously Asked Questions

Q: £1m per hour constraint costs when Scottish wind reaches 90 Load Factor (LF), and beginning to bite from a 50 LF is a worrisome situation. Further wind grown exceeds extra boundary capability in future. When and where might this peak? What can be done now?

A: The NOA (Network Options Assessment) details the recommendations for transmission build to increase capacity of the network. Please refer to the website for further details of work started this summer with Ofgem as part of the Centralised Strategic Network Planning process. Way Forward (NOA) | ESO (nationalgrideso.com). We will be running a deep dive on 'Transmission Network Development' on the 25th October which will cover this issue.

Q: Is there a view anywhere of what price level NGESO would currently value inertia at? e.g. £ / GVAs

A: We publish a daily file on ESO data portal which summarises the average cost per GVA.s inertia instructed via the BM and tagged as System Inertia: https://data.nationalgrideso.com/system/system-inertia-cost

The ESO also presented an average spend figure in the Stability Deep dive webinar (slide 35): https://www.nationalgrideso.com/document/278171/download

Q: The Dispatch Transparency datasets haven't been updated for 14 days now. Please can this be updated frequently and accurately? What look to be fairly obvious skips in the BM are regularly happening and so it's important for the market to see the cause and follow up promptly while they're fresh.

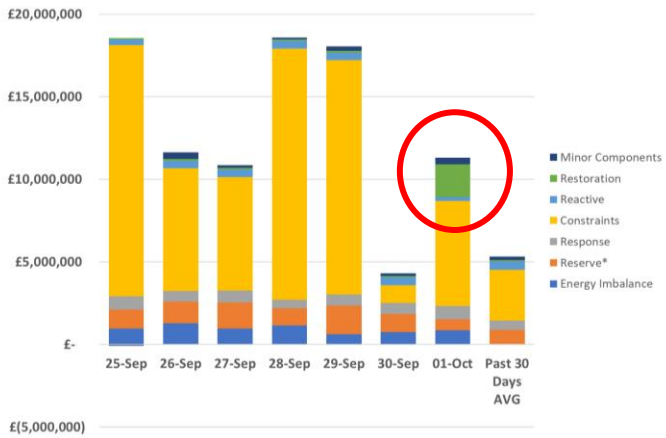
A: We have contacted the team and are investigating.

Previously Asked Questions

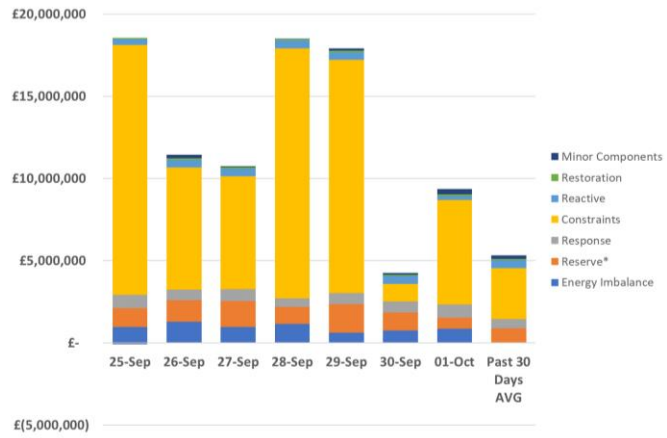
Q: Why did you incur almost £3m of Restoration costs on the 1st October when there is normally no daily Restoration costs?

A: Thank you for highlighting this - this cost was reported in error and has been corrected in the slide pack published last week. The corrected graph is below for reference.

Total Balancing cost: 25 Sep – 01 (Old)



Total Balancing Cost: 25 Sep – 01 Oct (New)



The balancing costs information shared at the OTF each week is based on a combination of estimated ancillary service costs plus indicative data from the balancing mechanism and trading systems. The ancillary service costs element (which includes Restoration) uses the previous year costs as a reference point. As you may remember last year we included an estimated daily cost for the coal contingency contracts from 1 October 2022, and this led to the error you identified in last weeks chart.

Advance Questions

Q: When implemented the Balancing Reserve (BR) service is going to remove capacity from the Day Ahead power auctions. Is it possible to either:

a) start publishing the volumes of BR that would be procured if the service was live in advance of it going live; or

b) a series of worked examples showing BR volume requirements under different system conditions

so the market can get a better feel for the impact it will have when it is implemented.

A: Thank you for raising this request. We appreciate that the launch of BR is likely to have a knock-on impact to the DA power auctions and worked with LCP Delta to produce a CBA to understand the total consumer impact.

They presented their findings at a recent webinar, the recording can be found on our website.
https://players.brightcove.net/867903724001/default_default/index.html?videoId=6330562853112

We have published anticipated requirements of between 500MW – 2,500MW for Balancing Reserve. The requirement will vary throughout the day depending on anticipated demand changes, wind generation and time of year.

We will be running a detailed requirements webinar closer to the launch date of the service and can include worked examples to show how the requirement is set under different system conditions.

It's worth noting that our requirement is a procurement target but the actual volume we will procure depends on the submitted prices and costs of alternative action.

Advance Questions

Q: Can the ESO please provide an update on the sale of the coal bought for West Burton A and Drax under the Winter Contingency contracts last winter but not burnt. Has a sale been agreed and how much will it raise?

A: Sales of the coal have been agreed and we are in the process of receiving credits for these sales. We shall be able to provide an update to the OTF on precisely what has been raised at a later date.

Q: The DC procurement forecast history (and probably other) dataset has recently been given two different date formats. Could NGESO consolidate on one date/datetime format? It would make data handling with your date much easier. Thank you:)

A: We have provided this feedback to the data owner and will provide an update in a future OTF.

Q: The 2-14 Days Ahead Demand Forecast on the ESO Data Portal is updated once a day. Does the ESO have any plans to publish updates to this data on a more frequent basis?

A: We don’t have any immediate plans to increase the publication, since the weather forecasts are less changeable over those longer timescales, but we would welcome any customer requests.

Outstanding questions

Q: Is it worth providing further context on constraint costs? Recent rise in gas prices has inflated the turn on costs to ~2/3rds of total. Those turn on costs also have to be incurred under any feasible dispatch so do you agree they shouldn't really be considered an additional system running cost?

A: Can you please provide clarification regarding this question and what context you are looking for exactly?

Q: Is DC, DR and DM provision performance routinely checked based on the data you receive as part of the service terms, can you provide a summary of the overall performance ? Thanks Christopher

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: 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

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 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