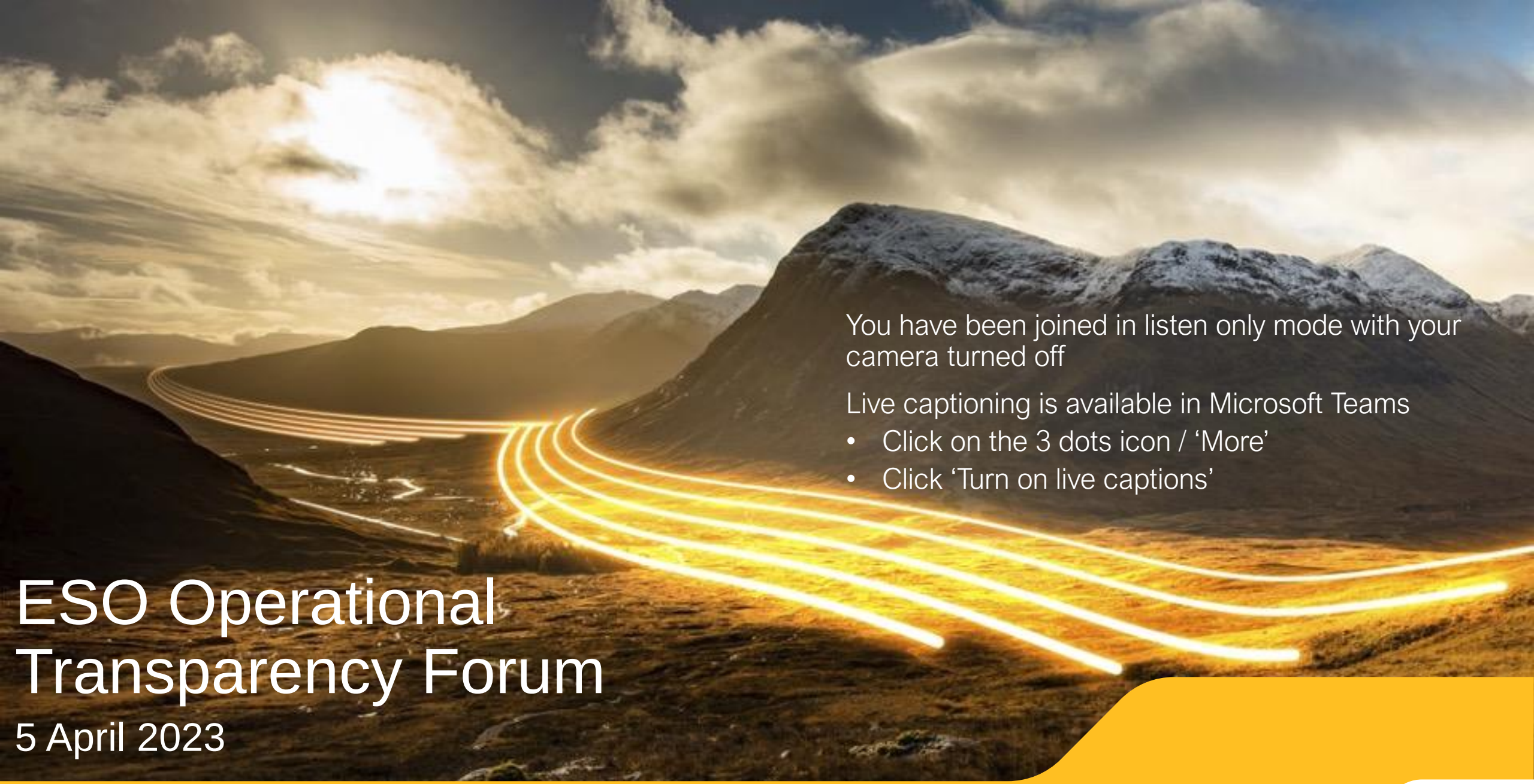


You have been joined in listen only mode with your camera turned off

Live captioning is available in Microsoft Teams

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

ESO Operational Transparency Forum

5 April 2023

ESO

Introduction | Sli.do code #OTF

Please visit www.sli.do and enter the code #OTF to ask questions & provide us with post event feedback.

We will answer as many questions as possible at the end of the session. We may have to take away some questions and provide feedback from our expert colleagues in these areas during a future forum. **Ask your questions early in the session to give more opportunity to pull together the right people for responses.**

To tailor our forum and topics further we have asked for names (or organisations, or industry sector) against Sli.do questions. If you do not feel able to ask a question in this way please use the Advanced questions option (see below) or email us at: box.NC.Customer@nationalgrideso.com

These slides, event recordings and further information about the webinars can be found at the following location:

Advanced question can be asked here: https://forms.office.com/r/k0AEfKnai3

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

ESO Website Refresh

Our new website went live last week and we have been able to upload the slides, recording and Q&A document from last week.

Operational Transparency Forum | ESO (nationalgrideso.com)

Everything should be working but please let us know if you cannot find something by contacting us at:

box.NC.Customer@nationalgrideso.com

Future deep dive / focus topics

Future

Response markets deep dive

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

Please note: **there won't be a forum on Wednesday 12 April** due to the Easter break. Regular content will be included in the slide pack for **19 April 2023**.

Ofgem Final Determinations for BP2

BP2 sets out our goals for years three and four of RIIO-2 (01 April 2023 - 31 March 2025) as we respond to the rapidly changing external environment. The plan includes five new activities and 16 new sub-activities to accelerate the transition to net zero. More details about ESO RIIO-2 can be found at: Our RIIO-2 Business Plan | ESO (nationalgrideso.com)

In their Final Determinations document published on 28 March 2023, Ofgem said:

> "*We note several continuous deliverables from BP1 to BP2 under the activity for Transparency and Open Data (A17). These deliverables at least meet our expectations as they show intent to provide user-friendly, comprehensive, and accurate information, including transparency on control room decision making.*
>
> ***Deliverable D17.6 for the Operational Transparency Forum has succeeded in exceeding our expectations to date for BP1. This could continue in BP2 if the ESO continues to; provide quality information and facilitate a high level of understanding among industry of the ESO's operations and decision-making processes."***

Thank you for your continuing support for the OTF, through participation in the weekly forum and in the constructive feedback you provide to the ESO and Ofgem both formally and informally.

Winter Contingency Units

Non-Proving Run

30 March 2023 – Drax non-proving run

In accordance with the winter contingency service contract terms, Drax undertook a planned non-proving run on DRAXX-5.

BMRS messages from 30 March 2023 are shown below.

System Warnings

Warning Date/Time (GMT)	Warning Text
2023-03-30 11:20	From : Power System Manager - National Grid Electricity Control Centre NATIONAL GRID NOTIFICATION Nature of Notification Winter Contingency Non-Proving Run Extension BMU ID: DRAXX-5. Estimated Capacity: Max: 300MW / 8hrs (extended from 6hrs) Sync Time / Date: 07:55 30/03/2023 System Flag. Notification Issued at 12:20 hrs on 30/03/2023 Issued by Gavin Brown National Grid Electricity Control Centre.
2023-03-29 05:00	From : Power System Manager - National Grid Electricity Control Centre NATIONAL GRID NOTIFICATION Nature of Notification Winter Contingency Unit Non-Proving Run BMU ID: DRAXX-5. Estimated Capacity: Max 300MW / 6.5hours Earliest sync time / date: 07:55 30/03/2023 System flag Notification Issued at 06:00 hrs on 29/03/2023 Issued by Simon Williams National Grid Electricity Control Centre.

The coal contingency contracts ended on 31 March 2023.

BSUoS Fixed Tariff Charging webinar

We are running a webinar on the **5 April (today) at 2pm** to present information and answer questions about BSUoS Fixed Tariff Charging that is effective from 1st April settlement day.

Registrations are still open for those who would like to attend.

We will be recording the session and making it available for download afterwards for any parties unable to attend on the day.

Click here to sign up for the webinar

Webinar registration | Microsoft Teams

Billing Schedule

The II run for the 1st April settlement day is scheduled to be processed on **12/04/2023**
The SF run for the 1st April settlement day is scheduled to be processed on **27/04/2023**
You can download the latest payment calendar **HERE**

Background Information

You can view the BSUoS final tariff report **HERE**
You can view the BSUoS final tariff webinar slides **HERE**

ESO Markets Roadmap 2023

The **ESO Markets Roadmap 2023** was published on Friday 31 March 2023.

Link: https://www.nationalgrideso.com/research-and-publications/markets-roadmap

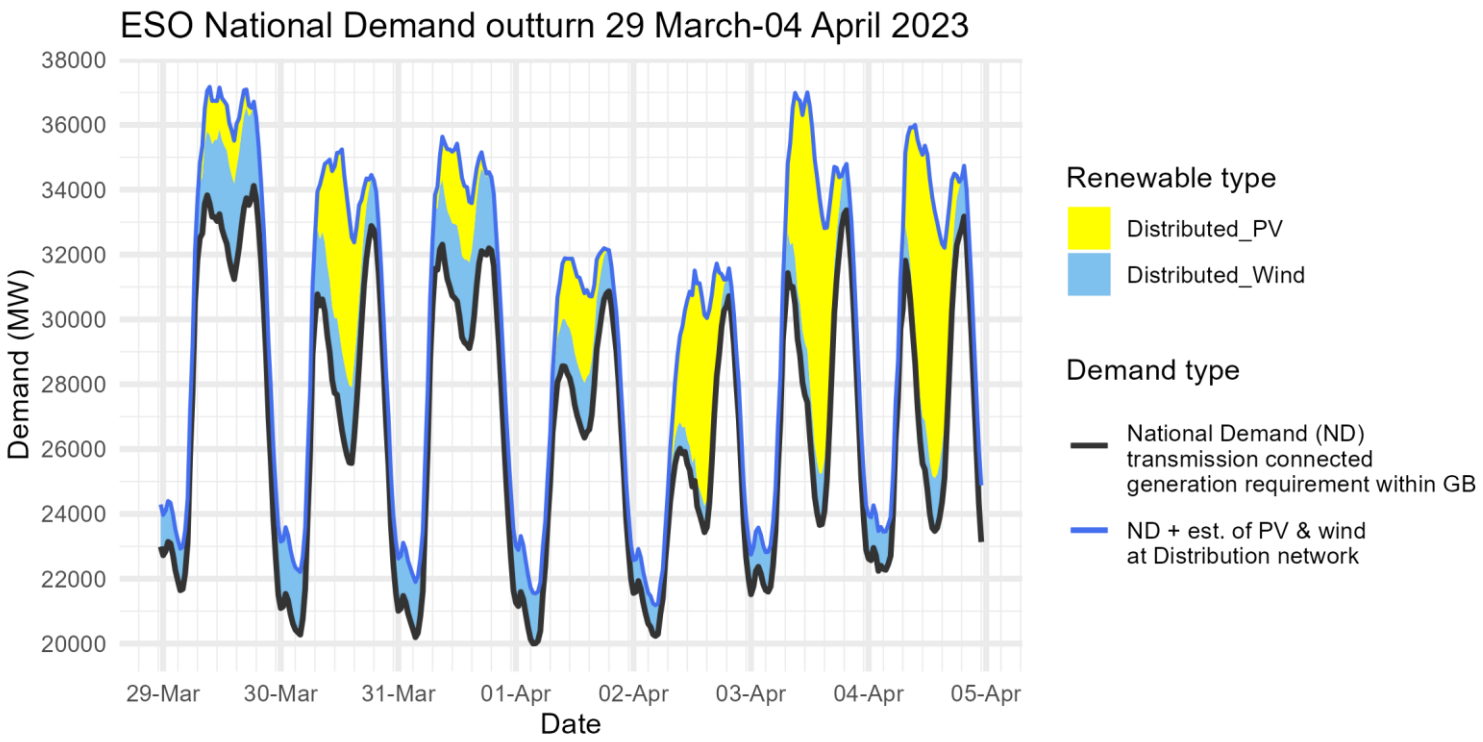
On **Tuesday 25 April at 11am**, we will be discussing the highlights of the report at a webinar.

This includes:

- Highlights of the reforms introduced in 2022
- The vision for 2023 and beyond
- Why we are implementing these reforms
- Q&A session

To register for the webinar sign up here: Markets Roadmap Webinar or scan the QR code:

Demand | Last week demand out-turn



		FORECAST (Wed 29 Mar)		OUTTURN	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Dist. wind (GW)
29 Mar	Evening Peak	34.7	2.7	34.1	2.6
30 Mar	Overnight Min	20.9	2.0	20.3	1.9
30 Mar	Evening Peak	34.5	1.8	32.9	1.5
31 Mar	Overnight Min	19.9	2.3	20.2	1.7
31 Mar	Evening Peak	32.0	2.4	32.2	2.3
01 Apr	Overnight Min	19.2	2.1	20.0	1.6
01 Apr	Evening Peak	30.2	2.0	30.8	1.3
02 Apr	Overnight Min	19.6	1.3	20.2	0.9
02 Apr	Evening Peak	31.2	0.9	30.3	0.8
03 Apr	Overnight Min	21.4	0.9	21.5	1.2
03 Apr	Evening Peak	34.2	1.4	32.8	1.4
04 Apr	Overnight Min	21.9	1.2	22.2	1.2
04 Apr	Evening Peak	34.3	1.0	32.6	1.5

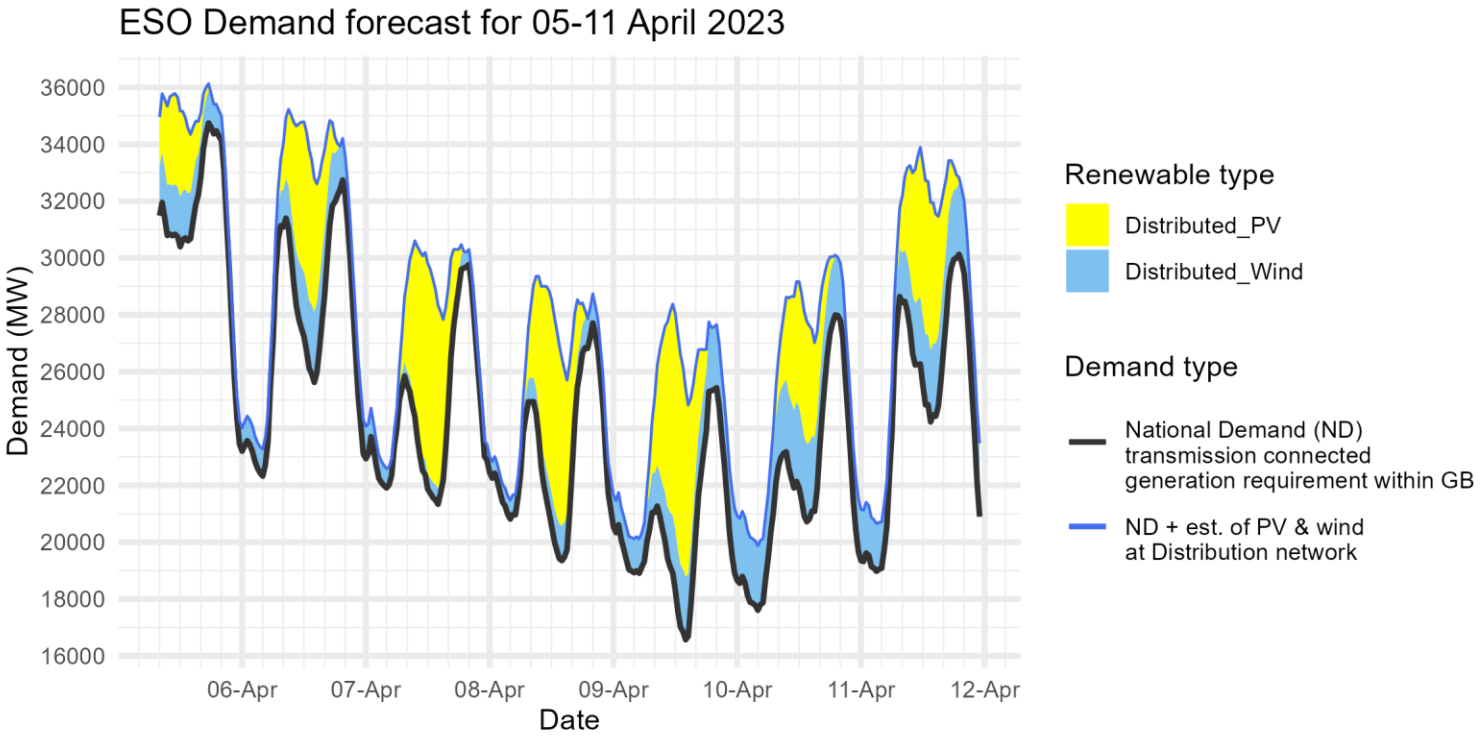
The black line (National Demand ND) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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 05 Apr)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
05 Apr 2023	Afternoon Min	30.6	1.7	2.3
06 Apr 2023	Overnight Min	22.3	0.9	0.0
06 Apr 2023	Afternoon Min	25.6	2.5	4.7
07 Apr 2023	Overnight Min	21.9	0.7	0.0
07 Apr 2023	Afternoon Min	21.3	0.6	6.4
08 Apr 2023	Overnight Min	20.8	0.7	0.0
08 Apr 2023	Afternoon Min	19.4	1.2	5.9
09 Apr 2023	Overnight Min	18.9	1.2	0.0
09 Apr 2023	Afternoon Min	16.6	2.2	6.6
10 Apr 2023	Overnight Min	17.6	2.3	0.0
10 Apr 2023	Afternoon Min	20.7	2.7	4.3
11 Apr 2023	Overnight Min	19.0	1.7	0.0
11 Apr 2023	Afternoon Min	24.2	2.5	5.2

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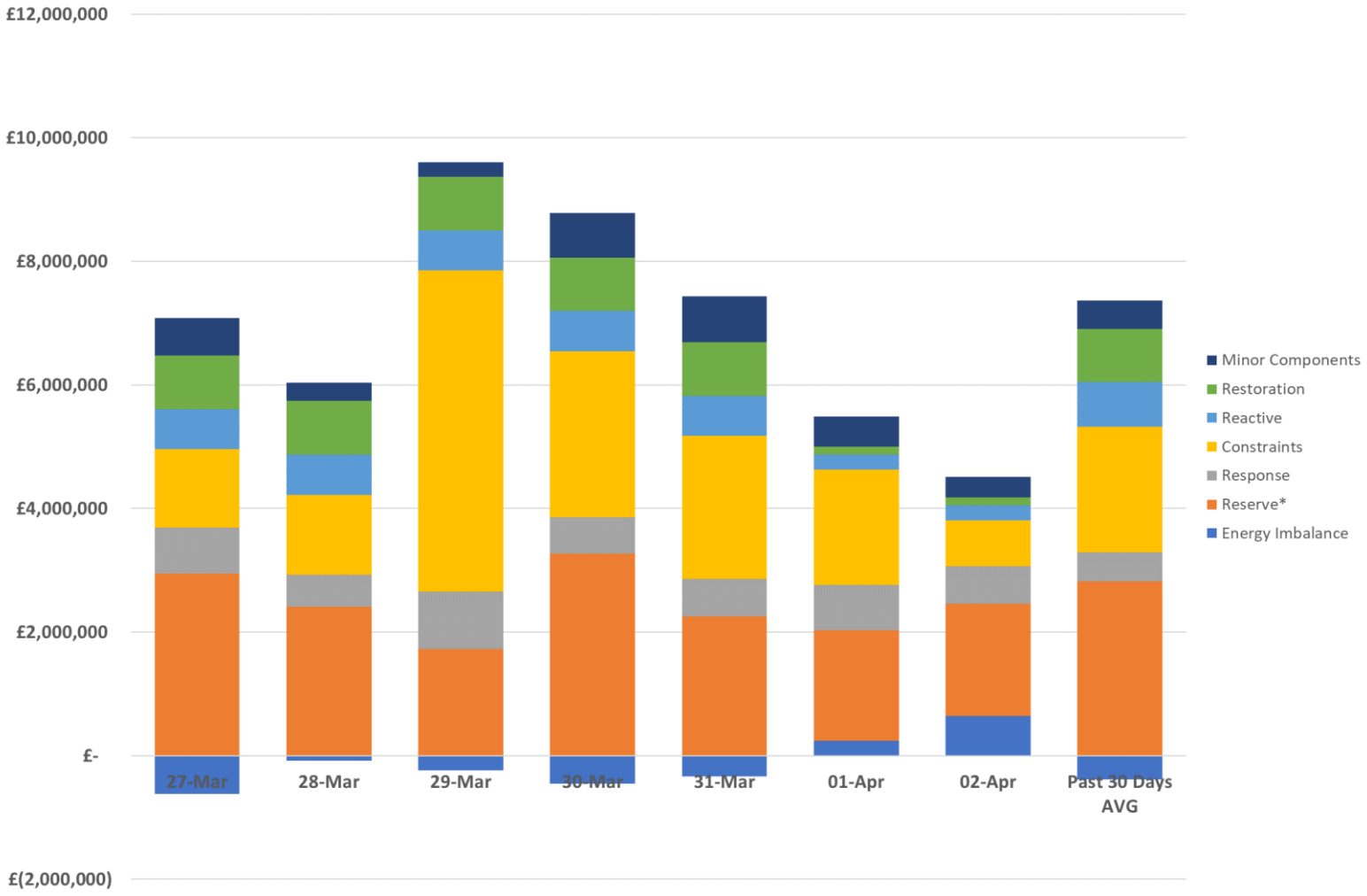
Historic out-turn data can be found on the ESO Data Portal in the following data sets: Historic Demand Data & Demand Data Update

Margin Update

As a reminder, following the spring clock change we will no longer be providing a weekly Margin Update

ESO Actions | Category costs breakdown for the last week

Date	Total (£m)
27/03/2023	6.5
28/03/2023	6.0
29/03/2023	9.4
30/03/2023	8.3
31/03/2023	7.1
01/04/2023	5.5
02/04/2023	4.5
Weekly Total	47.2
Previous Week	85.3

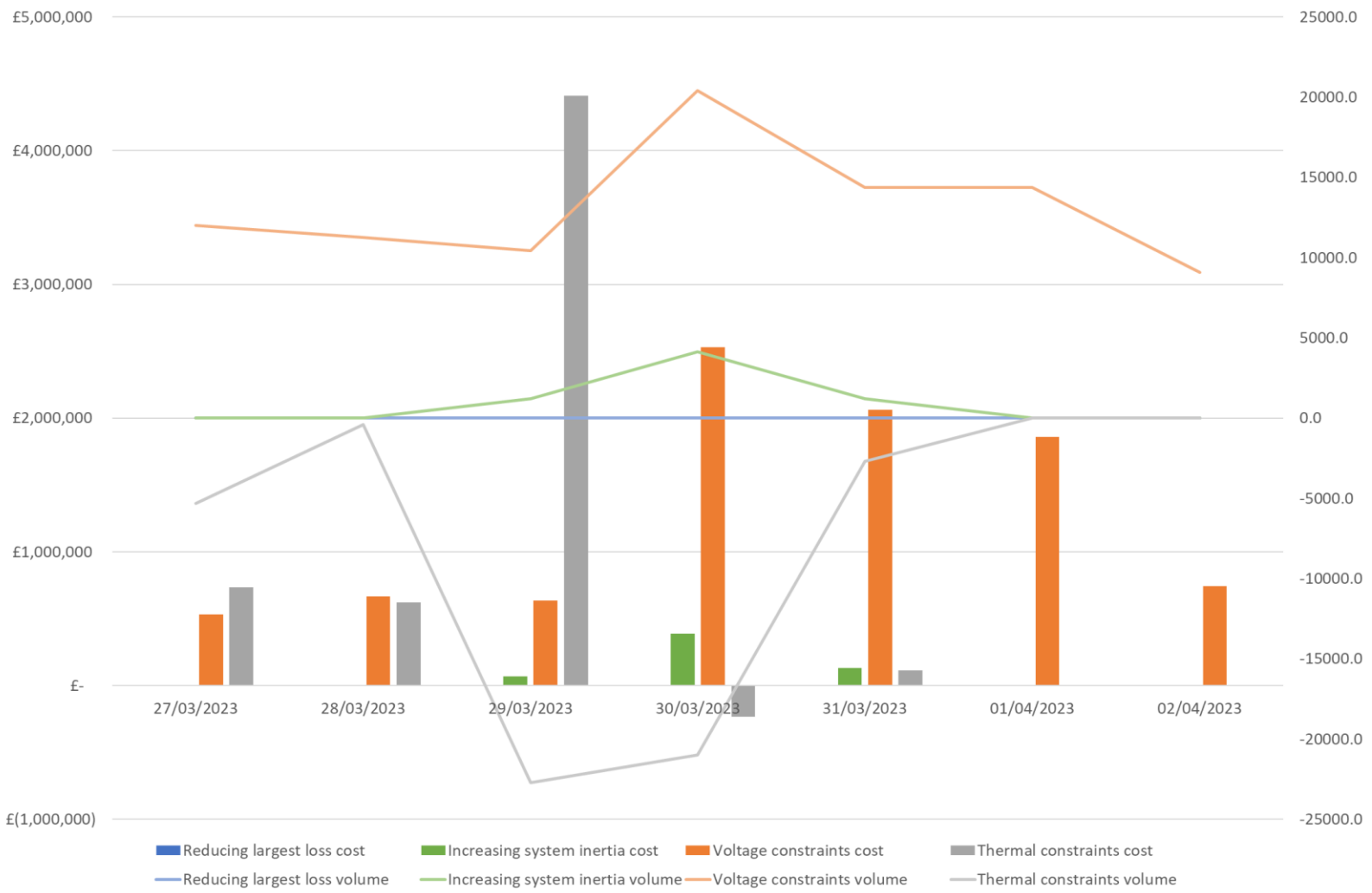


Constraints costs were the key cost component throughout the week.

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



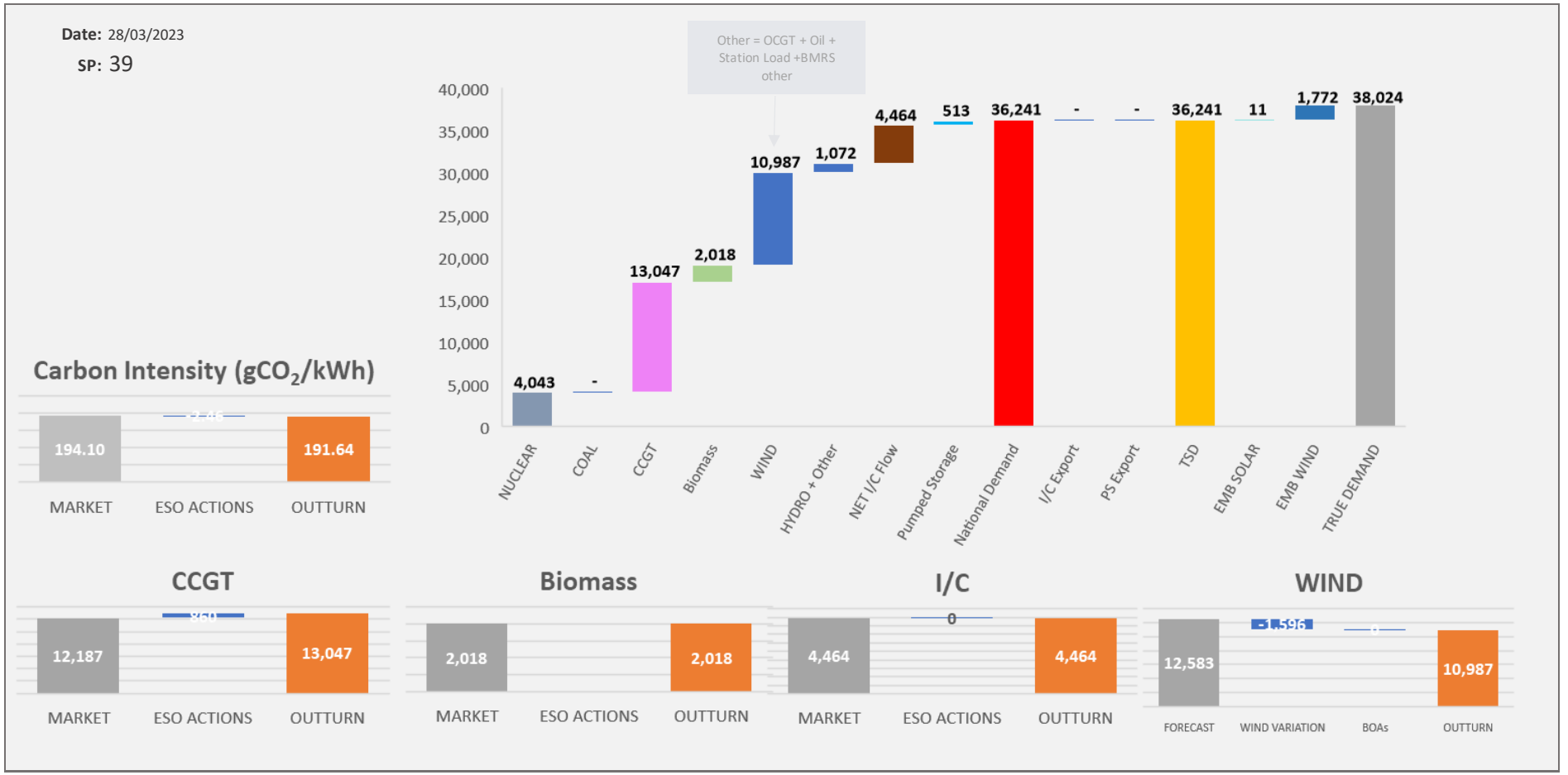
Thermal – network congestion
Actions required to manage Thermal Constraints from Monday to Friday, with the highest costs on Wednesday.

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

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

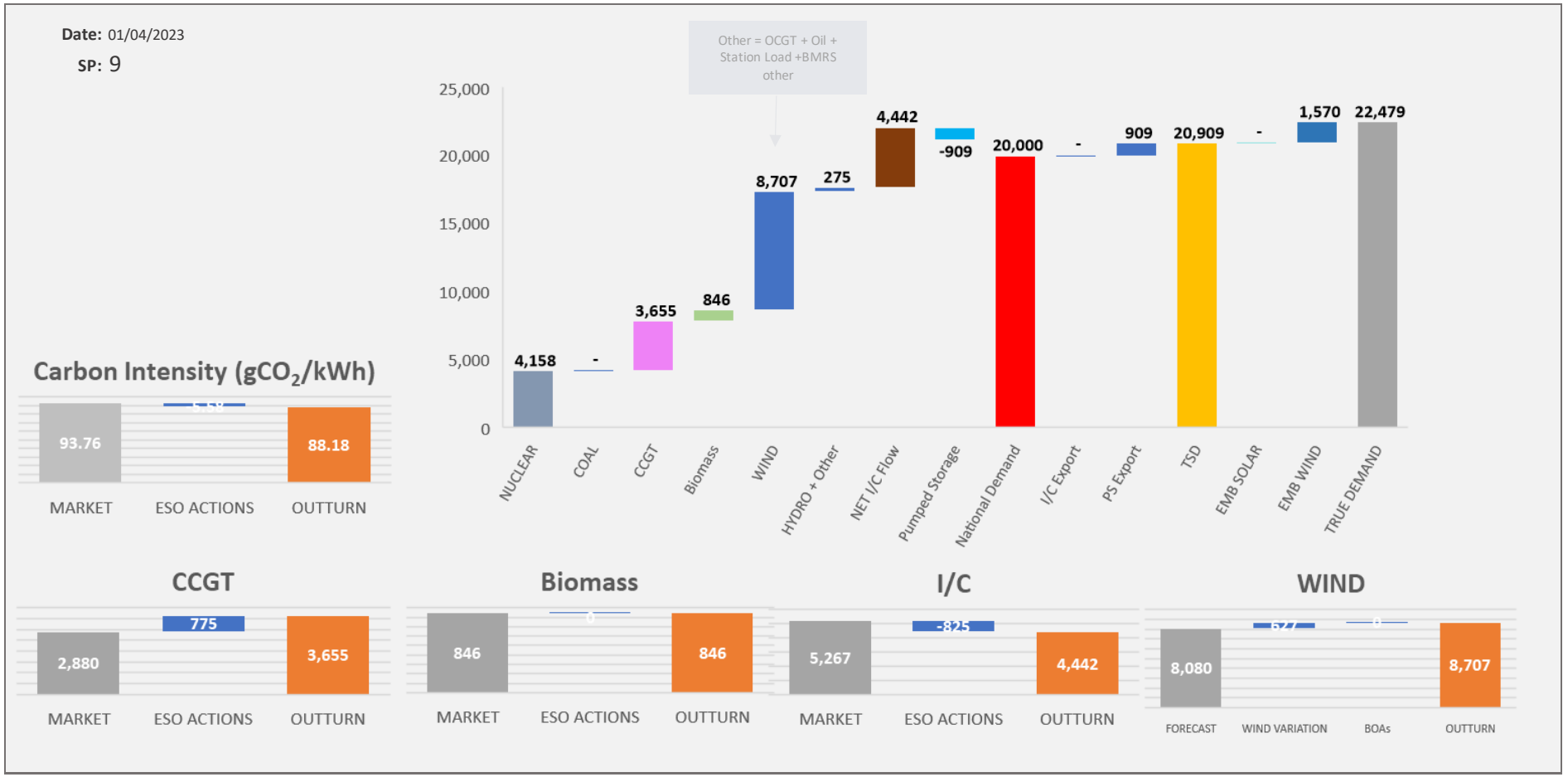
Increasing inertia
Intervention was required to manage system inertia on Wed, Thu & Fri.

ESO Actions | Tuesday 28 March – Peak Demand – SP spend ~£65k



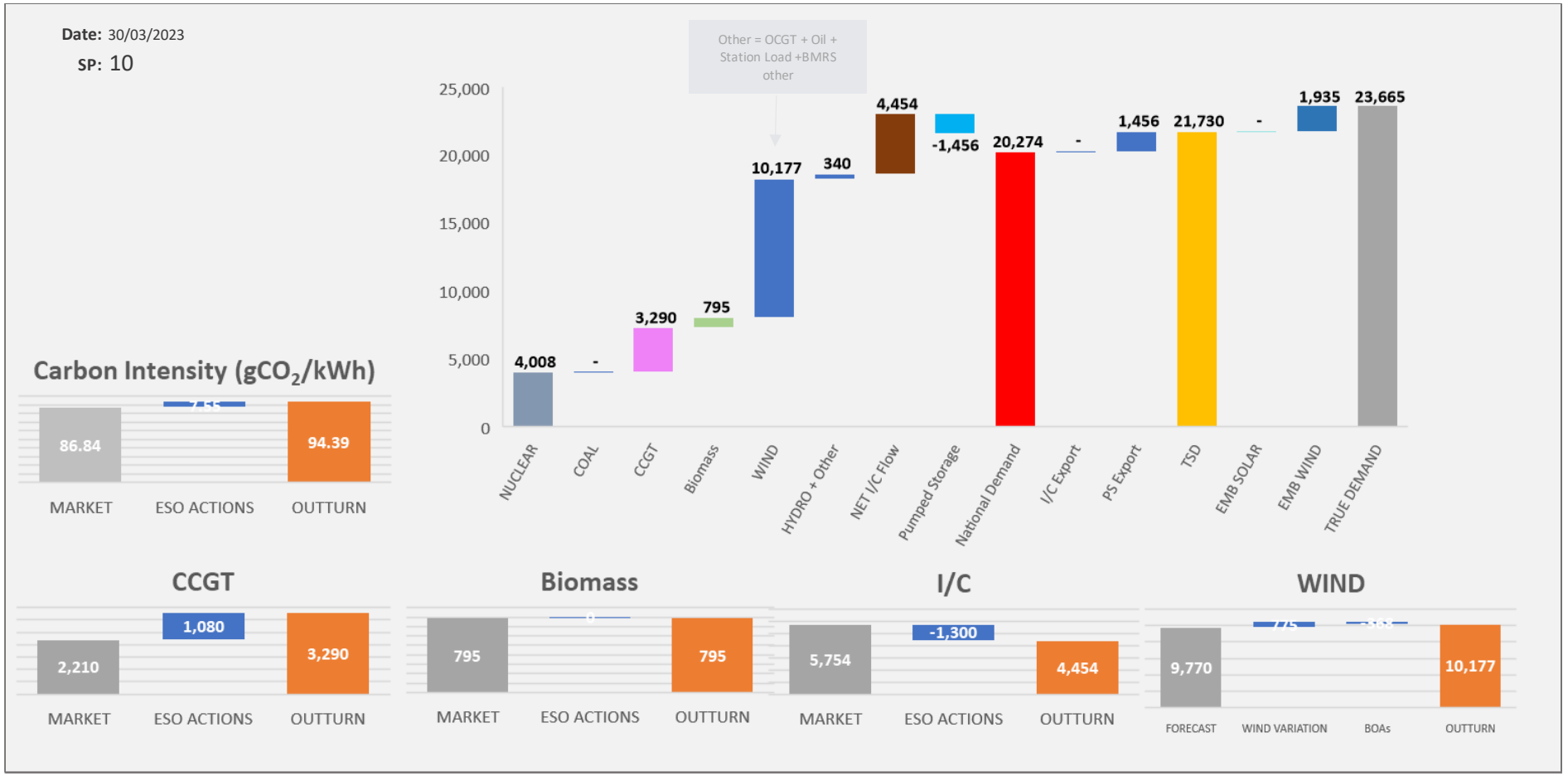
Carbon Intensity data on data portal: https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions

ESO Actions | Saturday 1 April – Minimum Demand – SP Spend ~£160k



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

ESO Actions | Thursday 30 March – Highest SP Spend ~£332k



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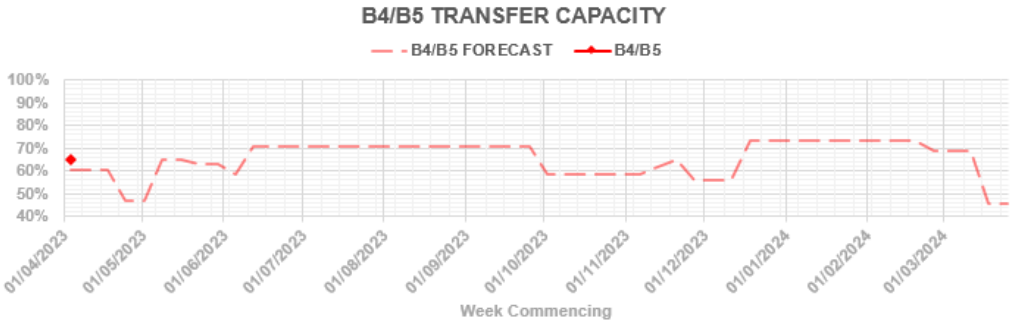
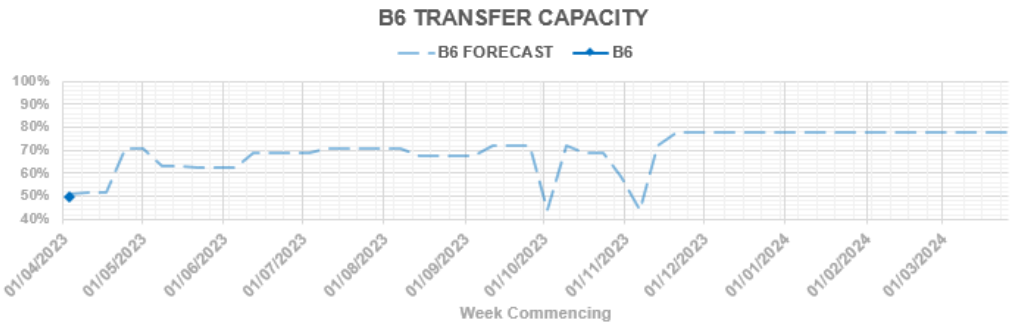
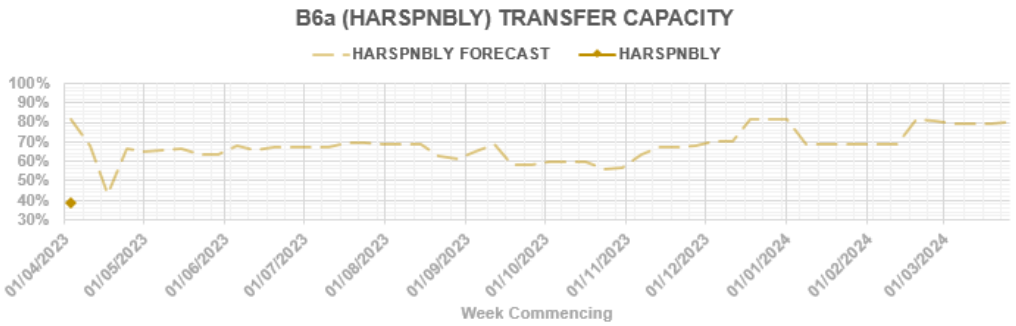
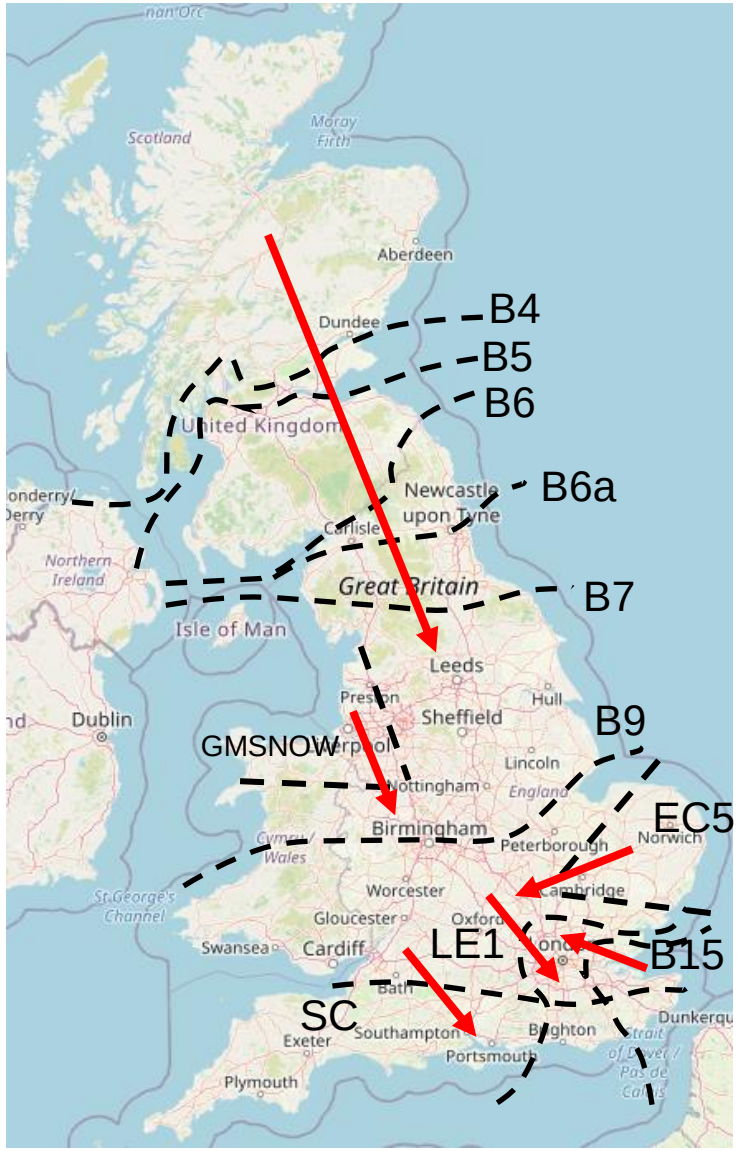
Transparency | Network Congestion





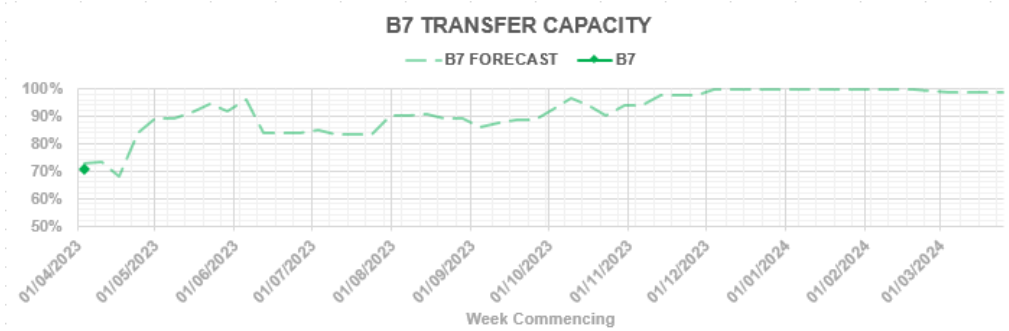


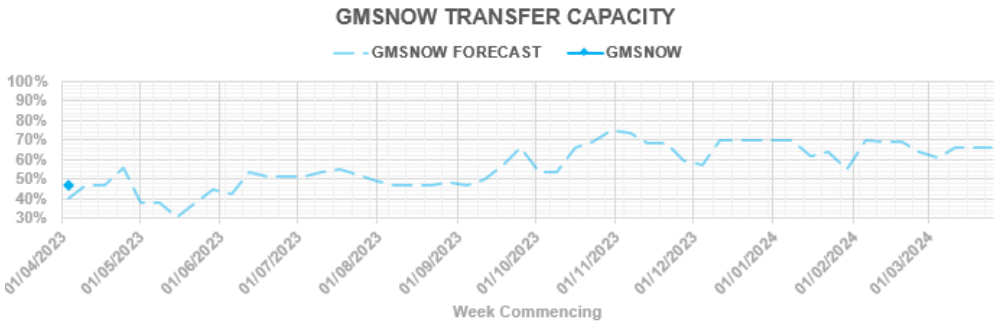
Boundary	Max. Capacity (MW)
B4/B5	2700
B6	4500
B6a	5800
B7	6050
GMSNOW	4500
B9	9800
EC5	5000
LE1	8500
B15	6600
SC	6700

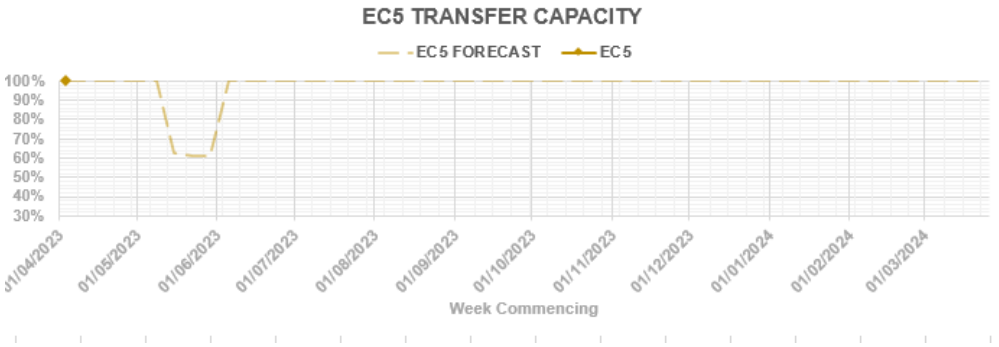


Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:
https://data.nationalgrideso.com/data-groups/constraint-management

Transparency | Network Congestion







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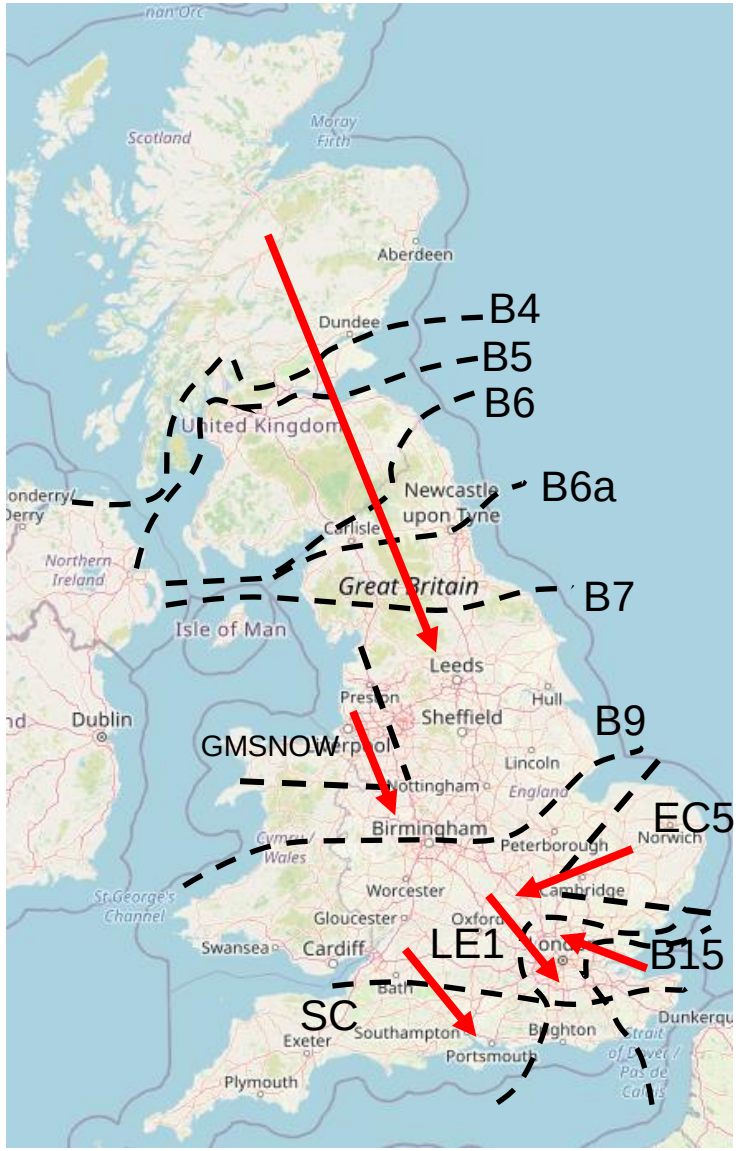

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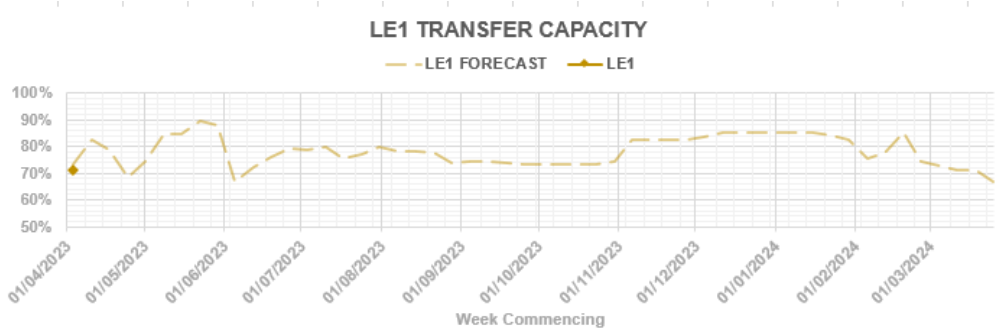
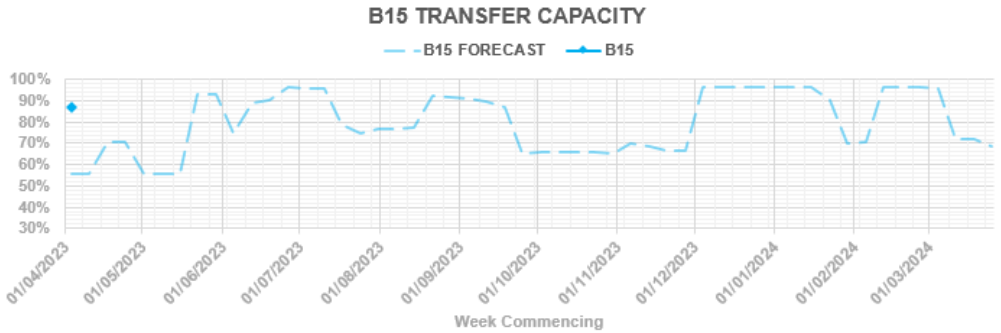
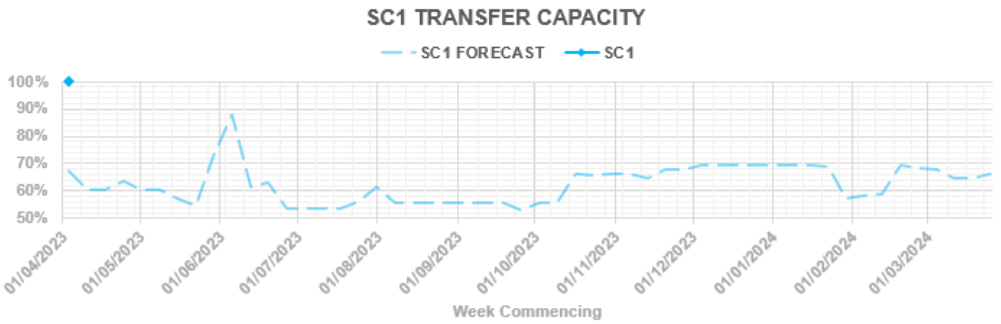
Transparency | Network Congestion







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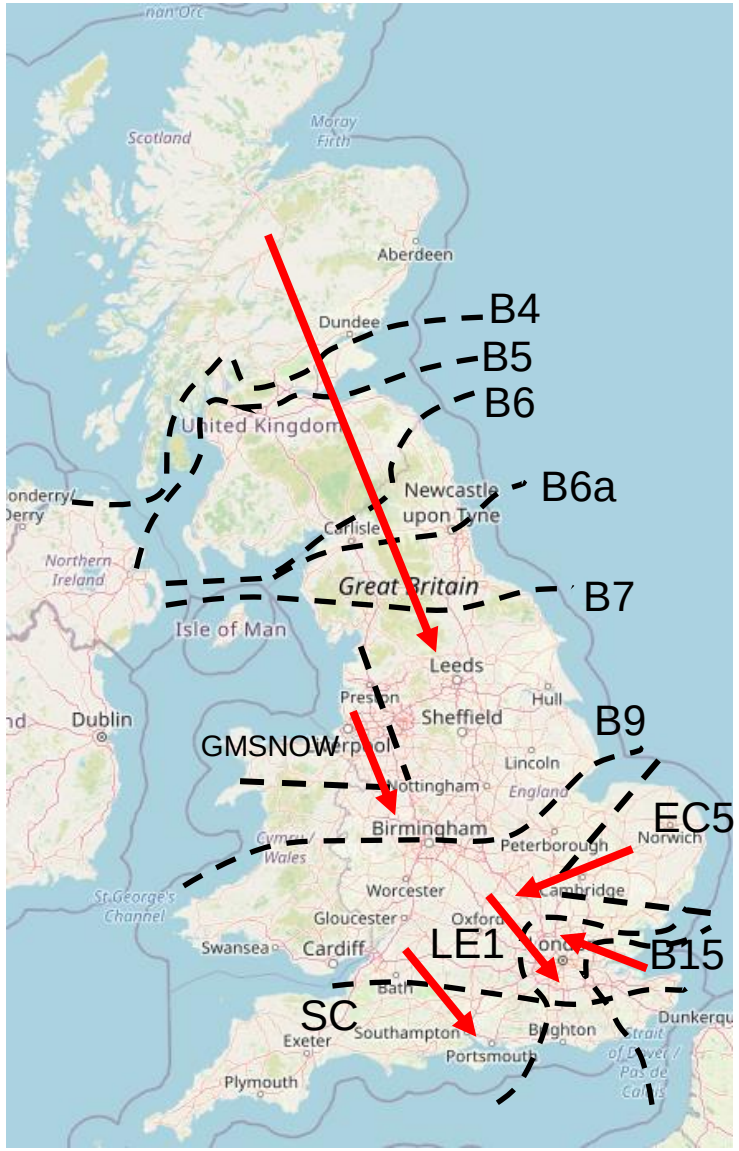

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Questions we are still working on

Q: I have few queries from today's session (8th March):

- The presenter mentioned that BALIT service is now called as "Excess Energy" service. I understood that service is still in use and only name is changed but it is mentioned in the ppt that ESO can not use this service (see snip). On a different slide: it is mentioned that Excess energy service is used by NGESO (see snip2).
- Please clarify can NGESO use "Excess Energy" service?
- If yes: What is the minimum notice period?
- If no – what is the minimum notice period?
- Please explain in detail how, when & why "excessive Energy" service is used by NGESO.

Q: Ref volts, will they (stsb projects) be reported along with other mandatory reactive utilisation and can the reactive utilisation file be updated in a more timely manner please.

Questions from last week

Q: The BMRA still shows Wind capacity 22242. Have there been any new farms online? Hornsea 2

Our update processes are showing no additional farms since late Nov 2022, though we are aware the registered capacity of this latest generator hasn't been updated. This update process is checked monthly.

BMRA already shows Hornsea B 2, under the name HOWBO-2.

Q: Why was your indo demand forecast so far out in the middle of the day on the 27th? Do you think there is more solar generation now than you've estimated?

The first working day after clock change is always a challenge for demand forecasting. We did see our large errors during the afternoon, but also at other periods during the day when solar PV would not have such a significant impact.

The weather forecasts on the day had significantly more cloud cover than what ended up occurring. This led to significant PV forecasting issues especially in the middle of the day.

We have recently reviewed our estimate of solar PV capacity based on the work from our ongoing collaboration with Sheffield Solar.

Questions from last week

Q: Kyle - so on DC what of those things changed - or was it all of them? Not sure the answer told me much!

As we covered last week on the call, the DC requirement will vary day to day based on a number of factors.

The requirement change communicated via the March Market Information Report is to enable us to grow this market to ensure we can meet the overall requirements of the system as we develop our suite of frequency response products over the coming months. We believe that market maturity is now at the point where we can start to signal a higher procurement need through our requirement setting which will ultimately allow us to phase out our legacy frequency response products.

Q: Sorry I meant the forecast for the metered wind. From the Waterfall diagrams for Mar 22 we see over 18GW forecast but only 15GW Gen whereas the fleet has been seen getting to 17GW. I thought the waterfall showed a shortfall as well as Operator Action.

The waterfall charts show forecast wind, wind variation, and BOA impact. The example for SP 22nd March has 18GW forecast, -1.7GW wind variation (i.e. 1.7GW under forecast), and -1.8GW BOAs (i.e. operator actions), which gives an outturn of 14.5GW

Questions from last week

Q: Ref Stab, Grain sync comps do not appear to be live in BM reports .

As part of the Stability pathfinder phase 1, two GTs at Grain GRAISC-1 and GRAISC-2 have been repurposed as sync comps to provide inertia, fault infeed and reactive power.

These units went live in March should now be visible in BMRS.

Q: Could you share the link to the content of the new Construction Planning Assumptions and storage modelling?

The policy is currently being finalised and will be shared soon. There is also an FAQ document which gives more information on CPAs and BESS:

https://www.nationalgrideso.com/document/276641/download

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

Reminder: **there won't be a forum on Wednesday 12 April** due to the Easter break. Regular content will be included in the slide pack for **19 April 2023**.