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ESO Operational Transparency Forum

24 April 2024

Introduction | Sli.do code #OTF

To ask questions live & give us post event feedback go to Sli.do event code #OTF.

- **Ask your questions as early as possible** as our experts may need time to ensure a correct answer can be given live.
- **Please provide your name or organisation.** This is an operational forum for industry participants therefore questions from unidentified parties will not be answered live. If you have reasons to remain anonymous to the wider forum please use the advance question or email options below.
- **The OTF is not the place to challenge the actions of individual parties** (other than the ESO) and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: marketreporting@nationalgrideso.com
- **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

Future

Update: Impact of day ahead static FFR – 1st May

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

Frequency Risk and Control Report (FRCR) 2024 Consultation

10th April – 17th May 2024

- In line with SQSS requirement, we are obliged to produce an annual FRCR report and consult with industry on the methodology and assessment presented in the report on how we manage frequency risks.
- **We will be consulting on the 2024 version of FRCR between the 10th April and 17th May 2024.**
- The consultation and associated documents is published on our website, which can be [found here](#).
- We are holding a webinar on **Wednesday 1st May 13:00-14:00**, mid-way through the consultation period to provide further insight into the proposal and take any initial feedback on the proposals ahead of the consultation period closing.

Please send your response proforma to box.sqss@nationalgrideso.com by 5pm on Friday 17th May 2024.

Please register your interest for the webinar using [this link](#)

Frequency Roadshows

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

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

London Roadshow:

25th April 2024
9:30am – 4:00pm

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

Edinburgh Roadshow:

1st May 2024
9:30am – 4:00pm

Novotel Edinburgh Centre
80 Lauriston Place
Edinburgh
EH3 9DE

Attendees will be able to dial into the FRCR webinar from the Edinburgh Roadshow

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

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

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.

Markets Forum

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

If you can't join us on the day, you'll be able to watch a live stream of the main event. Tickets are limited, so choose your preferred [sign-up](#) option.

Location: 200 SVS, Glasgow

Date: 14 May

Main event: 10am-2pm

An overview of our key market priorities and industry panel.

Marketplace: 2.15-3.30pm

An optional end of day event to continue the conversation with our Senior ESO Leaders and ESO colleagues in a dedicated networking session.



- We are intending to share updates for both Electricity and Gas in this forum as part of our Whole Energy System approach.
- If you have specific questions or topics you would like to see addressed, please indicate this by dropping an email to the team at: box.MarketsEngagement@nationalgrideso.com

Balancing Programme Webinar

Date: 27 June 2024

Time: 9:30am – 5:30pm

Hear the latest on:

- Progress to transform our balancing capabilities
- Upcoming releases and their anticipated impact
- Storage parameters
- Open Balancing Platform Optimisation & demos

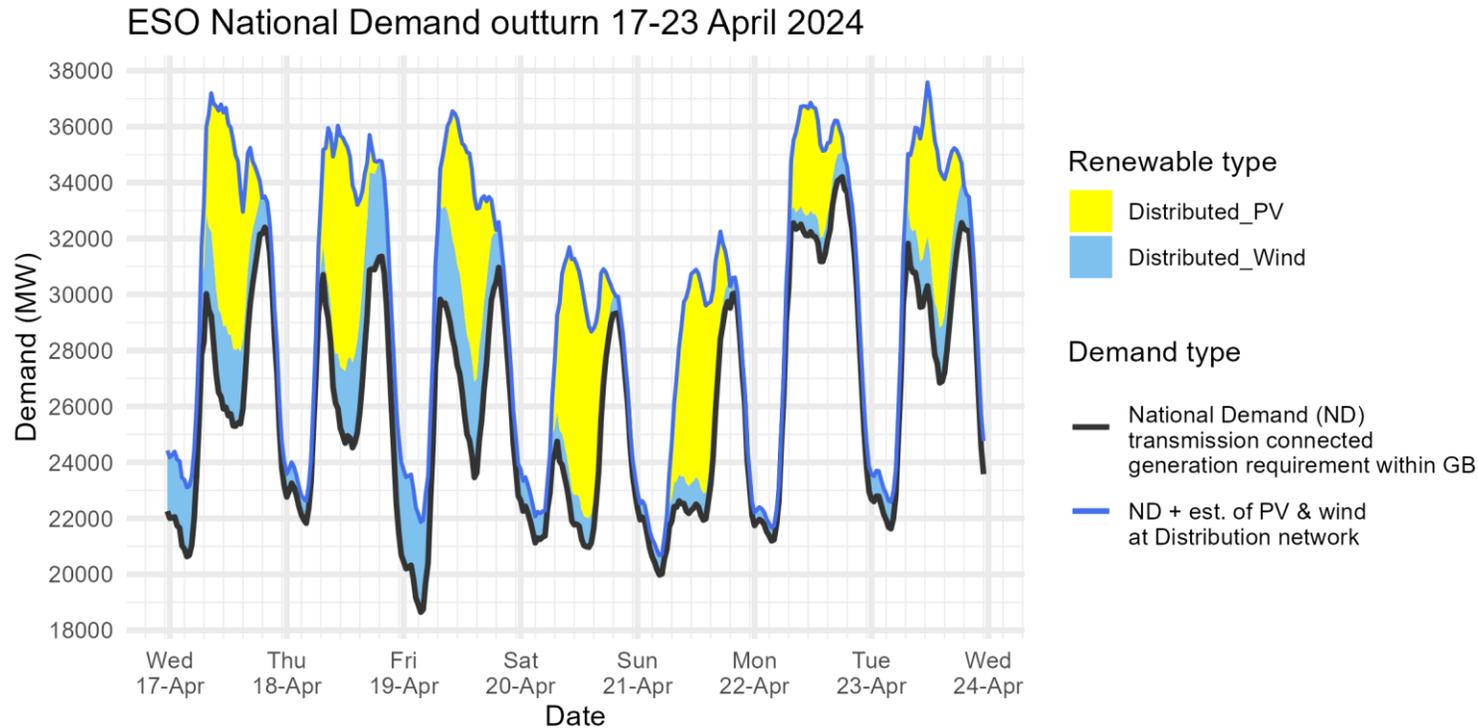
To sign up to the event, click [here](#)

To stay up to date with the latest information from the Balancing Programme, subscribe to our newsletter by clicking [here](#)

If you have any questions, please contact the team at: box.balancingprogramme@nationalgrideso.com

Sli.do code #OTF

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

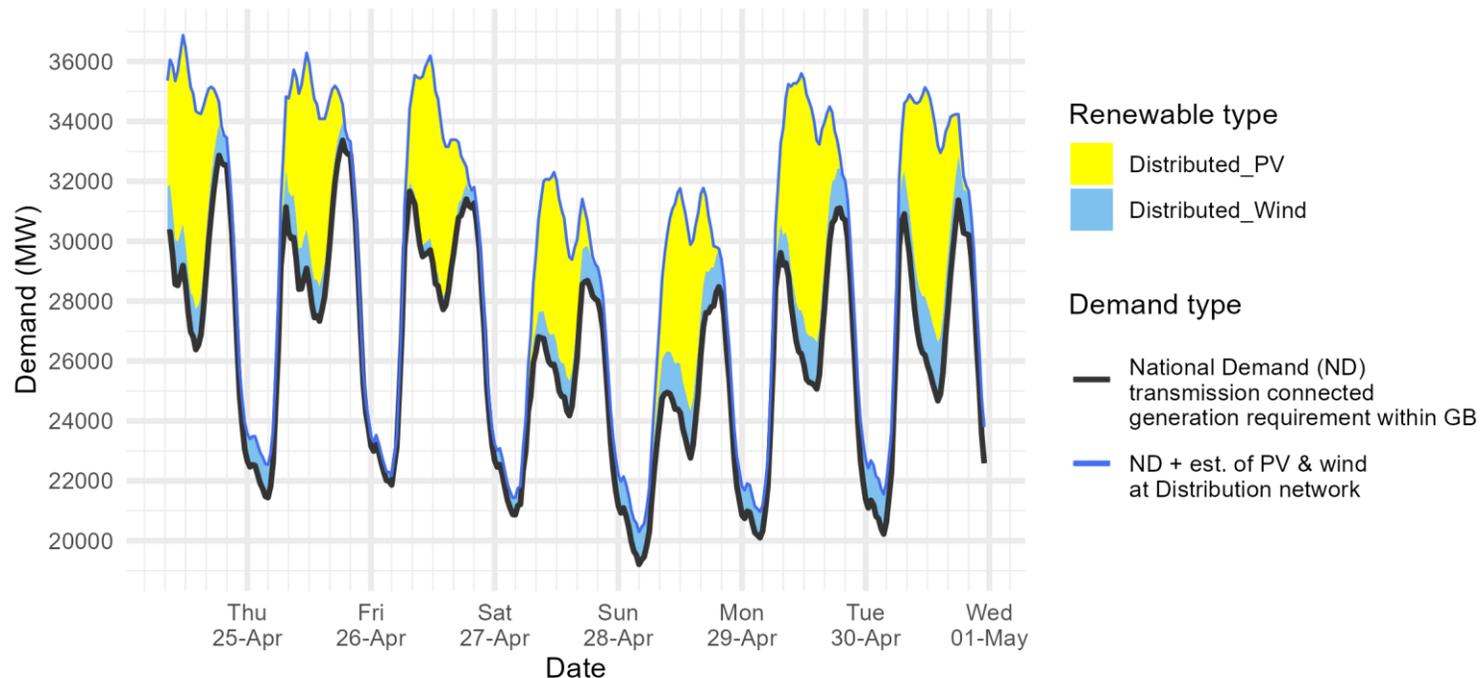
Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it **does not include** demand supplied by non-weather driven sources at the distributed network for which ESO has no real time data.

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 17 Apr)			OUTTURN		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
17 Apr	Afternoon Min	27.1	2.8	6.1	25.3	2.7	7.0
18 Apr	Overnight Min	22.8	0.7	0.0	21.8	0.8	0.0
18 Apr	Afternoon Min	25.5	2.3	7.9	24.5	3.0	6.3
19 Apr	Overnight Min	19.5	3.5	0.0	18.6	3.2	0.0
19 Apr	Afternoon Min	24.4	3.7	6.6	23.5	3.4	6.6
20 Apr	Overnight Min	20.9	0.9	0.0	21.1	0.9	0.0
20 Apr	Afternoon Min	22.9	0.7	6.8	21.0	1.0	6.9
21 Apr	Overnight Min	20.3	0.3	0.0	20.0	0.7	0.0
21 Apr	Afternoon Min	23.8	0.6	6.9	21.9	0.9	7.1
22 Apr	Overnight Min	20.5	0.6	0.0	21.2	0.5	0.0
22 Apr	Afternoon Min	26.0	1.1	7.0	31.2	0.9	3.1
23 Apr	Overnight Min	20.9	1.0	0.0	21.6	1.0	0.0
23 Apr	Afternoon Min	26.1	1.8	6.4	26.8	2.0	5.6

Demand | Week Ahead

ESO Demand forecast for 24-30 April 2024



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

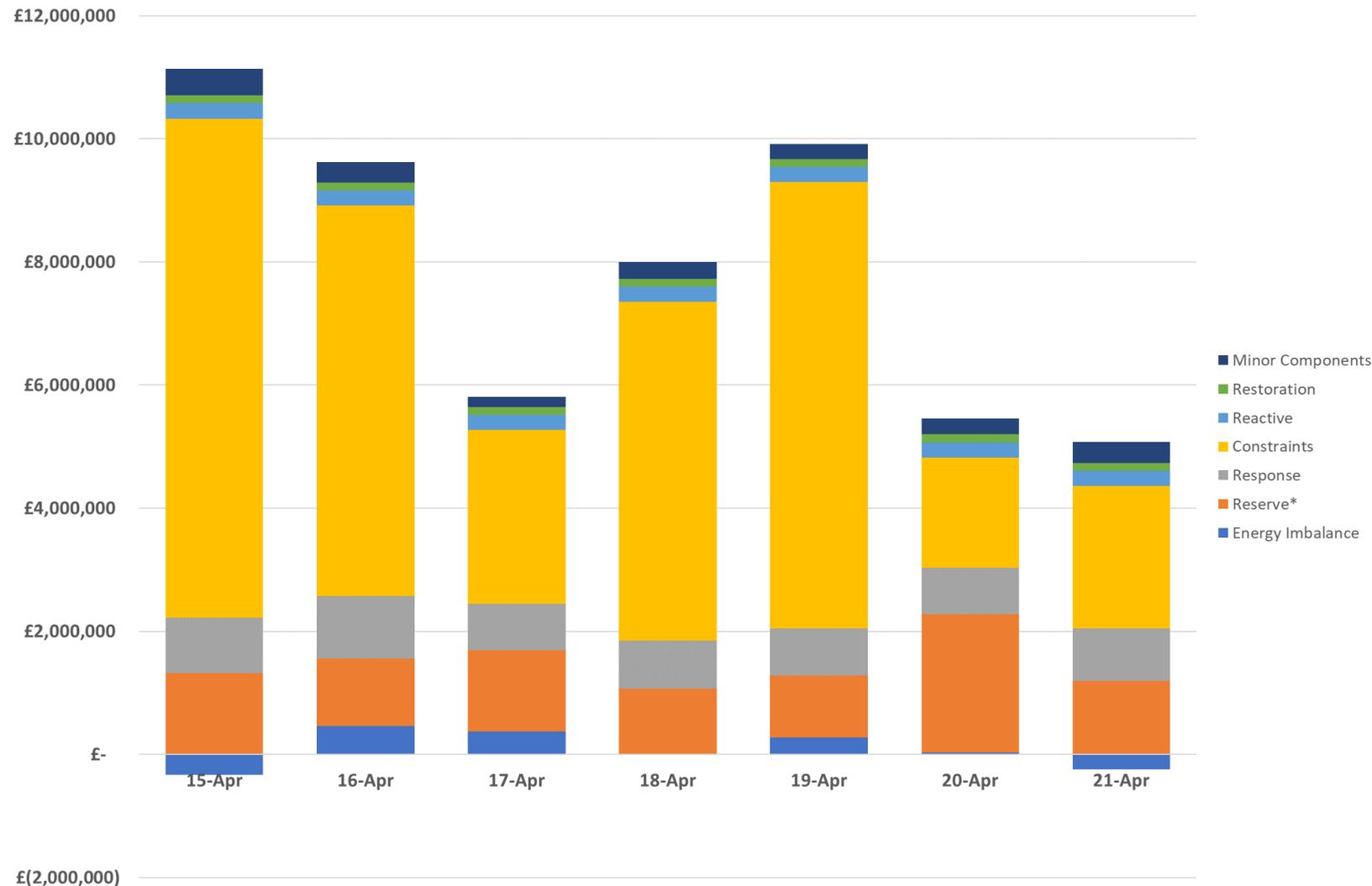
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Date	Forecasting Point	FORECAST (Wed 24 Apr)		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
24 Apr 2024	Afternoon Min	26.4	1.4	6.6
25 Apr 2024	Overnight Min	21.4	1.1	0.0
25 Apr 2024	Afternoon Min	27.3	1.2	5.6
26 Apr 2024	Overnight Min	21.9	0.3	0.0
26 Apr 2024	Afternoon Min	27.7	0.5	5.3
27 Apr 2024	Overnight Min	20.9	0.6	0.0
27 Apr 2024	Afternoon Min	24.2	1.2	4.1
28 Apr 2024	Overnight Min	19.2	1.1	0.0
28 Apr 2024	Afternoon Min	22.8	1.6	5.5
29 Apr 2024	Overnight Min	20.1	0.9	0.0
29 Apr 2024	Afternoon Min	25.1	1.6	6.7
30 Apr 2024	Overnight Min	20.2	1.3	0.0
30 Apr 2024	Afternoon Min	24.7	2.0	6.6

ESO Actions | Category costs breakdown for the last week



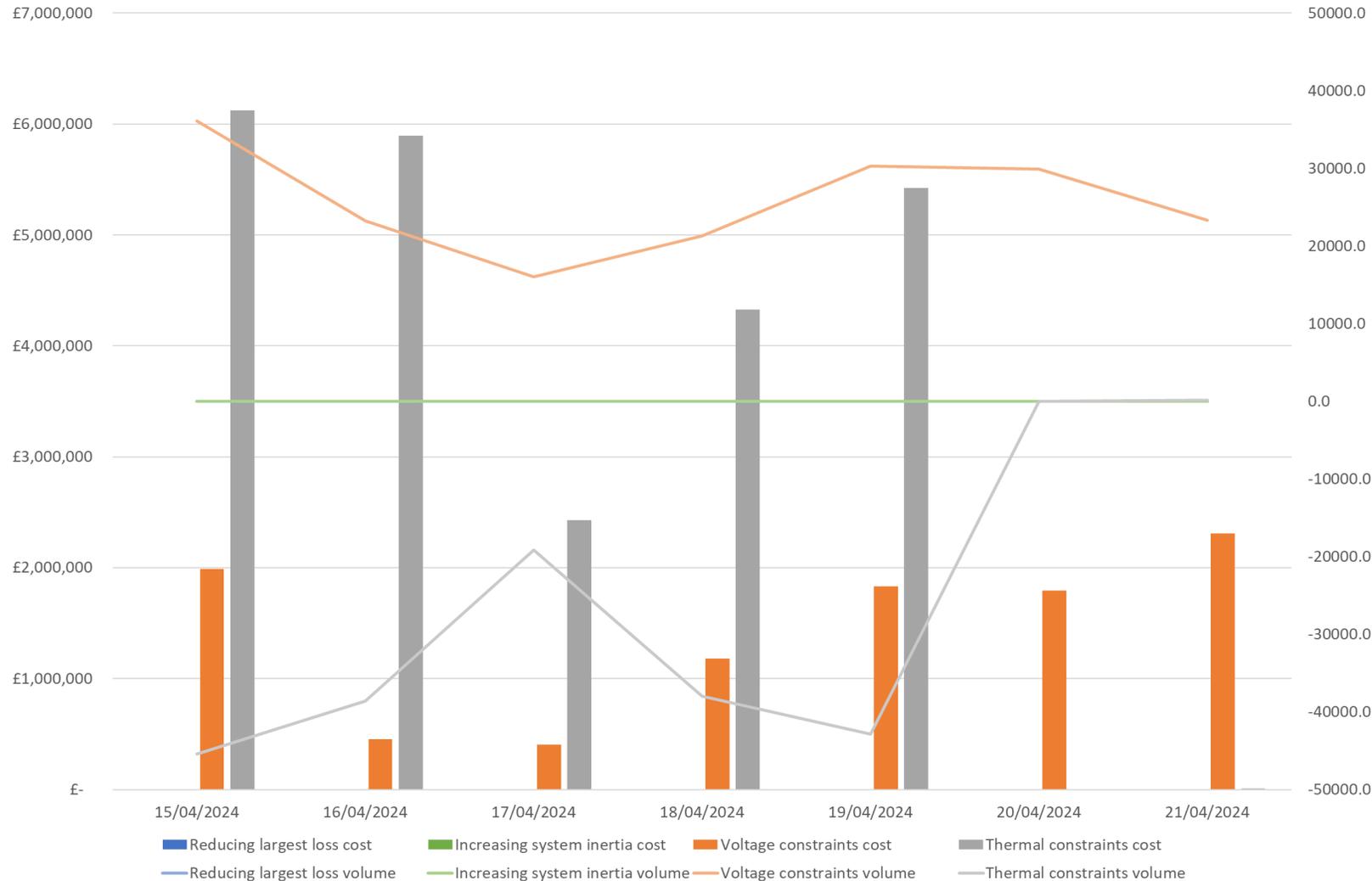
Date	Total (£m)
15/04/2024	10.8
16/04/2024	9.6
17/04/2024	5.8
18/04/2024	8.0
19/04/2024	9.9
20/04/2024	5.5
21/04/2024	4.8
Weekly Total	54.5
Previous Week	67.5

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



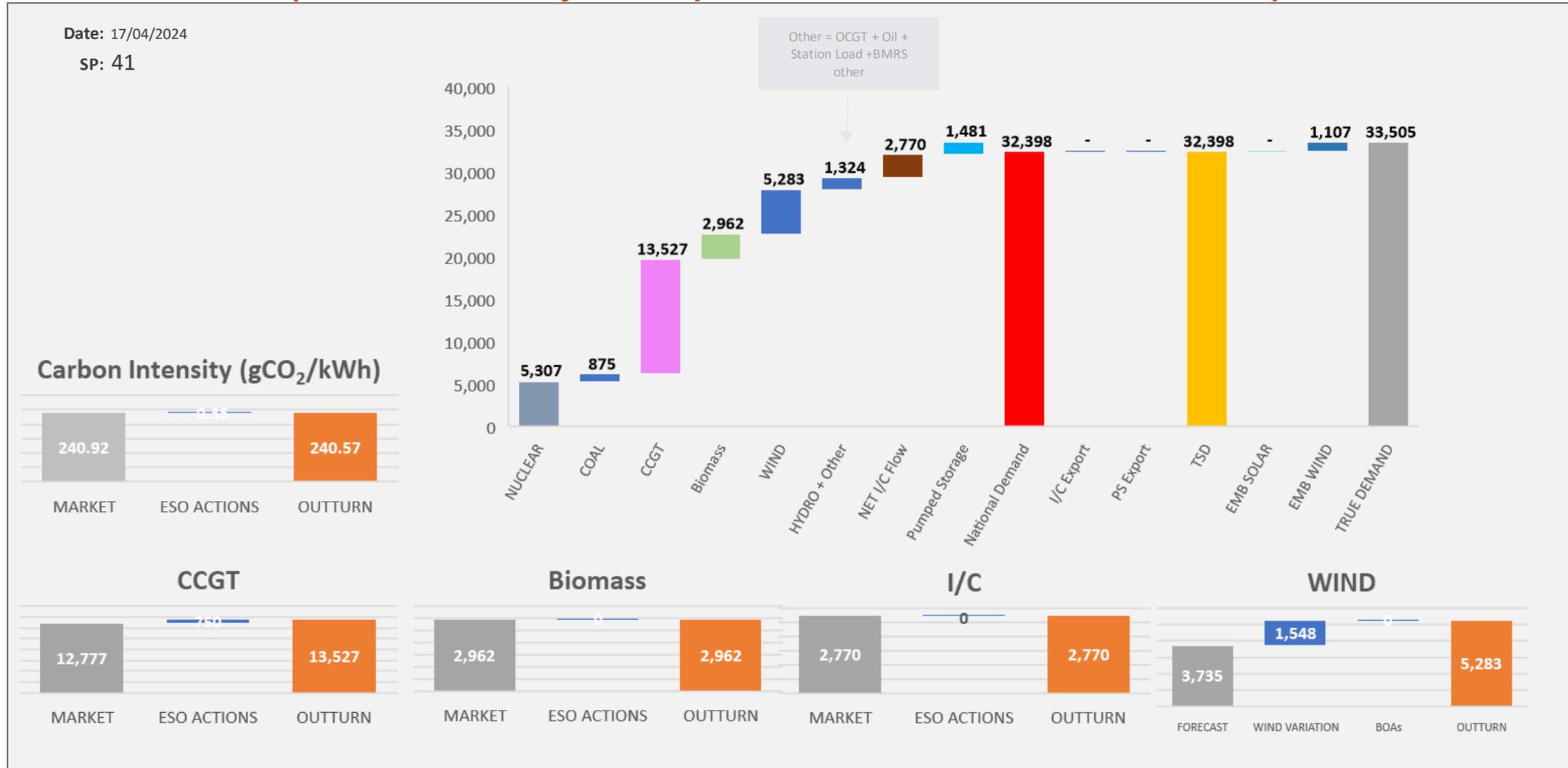
Thermal – network congestion
Actions were required to manage thermal constraints throughout the week, with the exception of Saturday

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

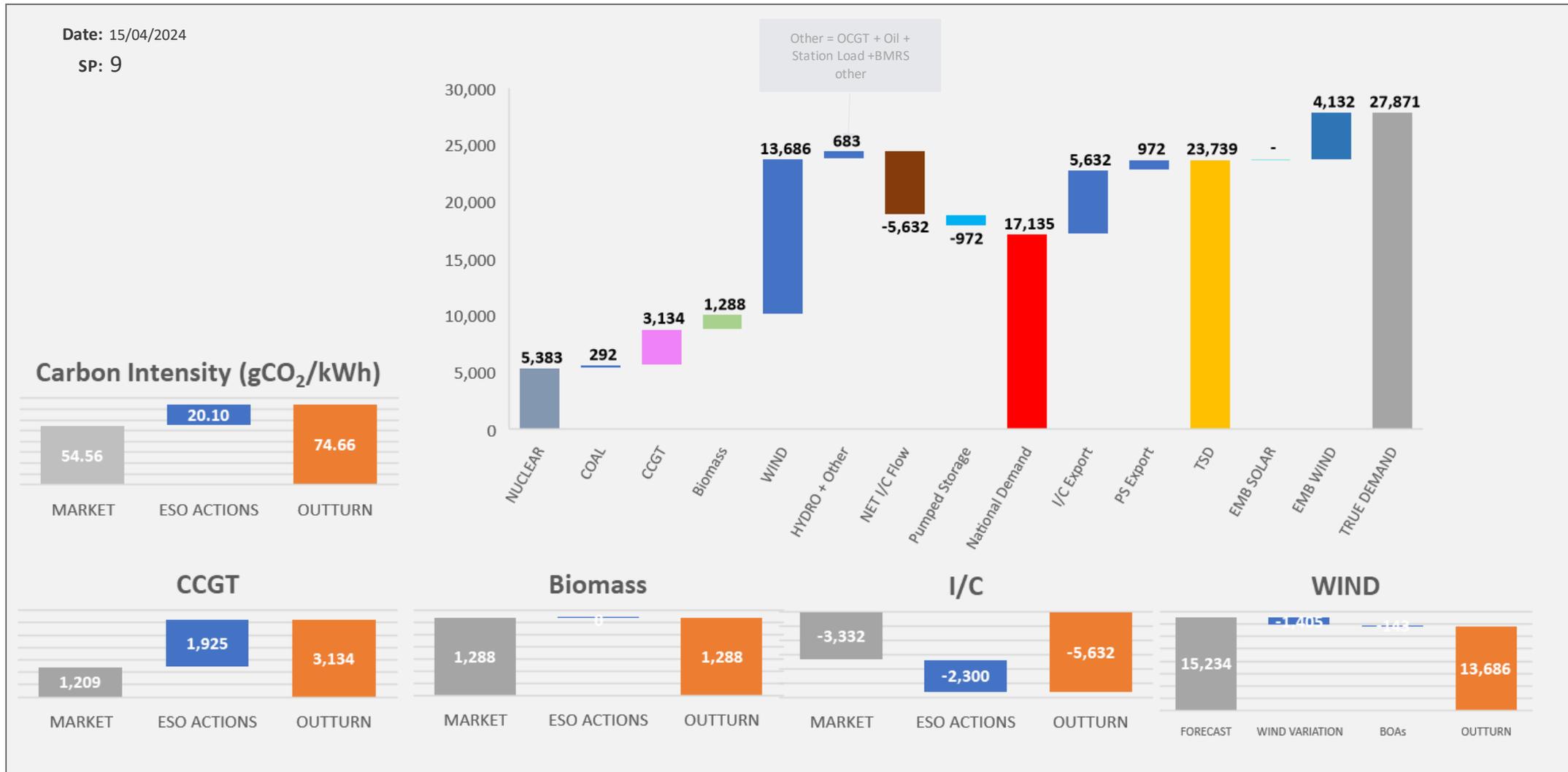
Managing largest loss for RoCoF
No intervention was required to manage largest loss.

Increasing inertia
No intervention was required to manage System Inertia this week.

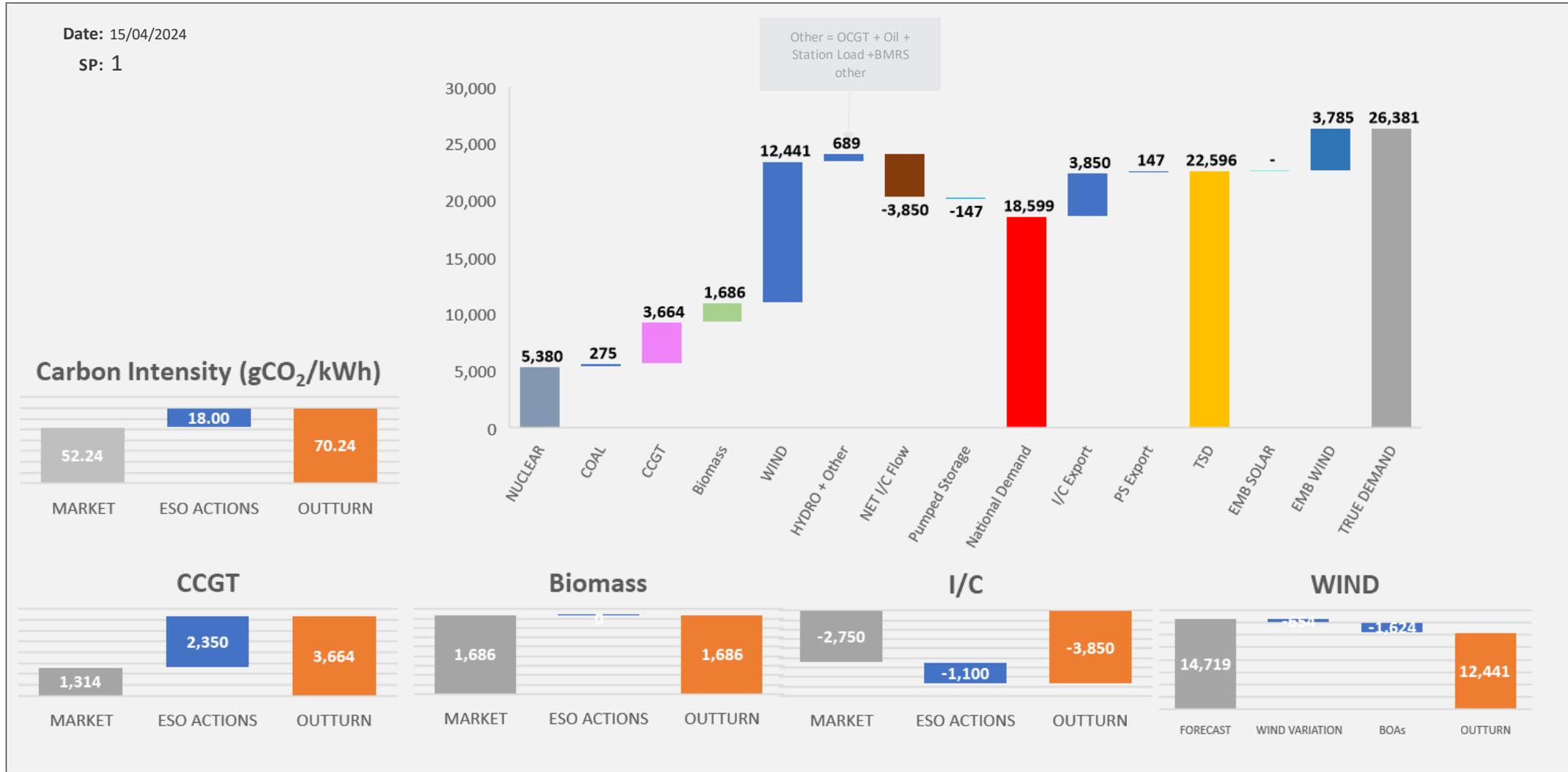
ESO Actions | Wednesday 17 April – Peak Demand – SP spend ~£30k



ESO Actions | Monday 15 April – Minimum Demand – SP Spend ~£240k



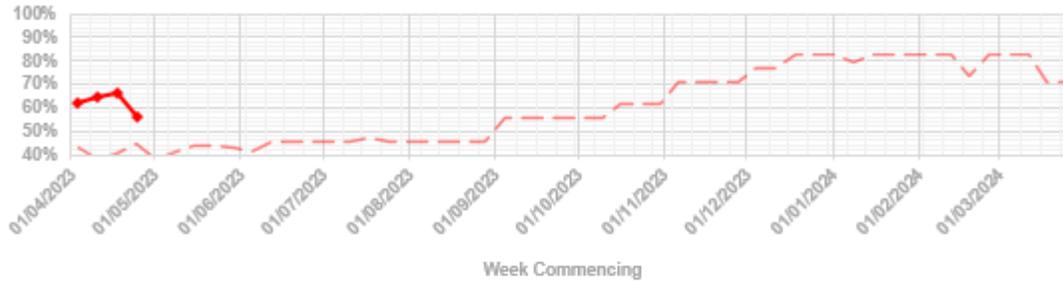
ESO Actions | Monday 15 April – Highest SP Spend ~£350k



Transparency | Network Congestion

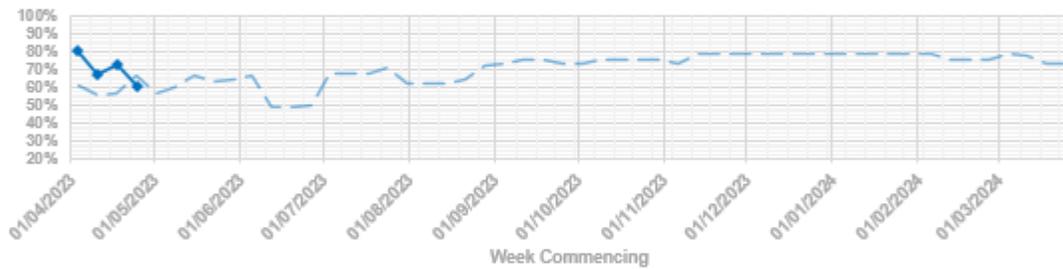
B4/B5 TRANSFER CAPACITY

--- B4/B5 FORECAST — B4/B5



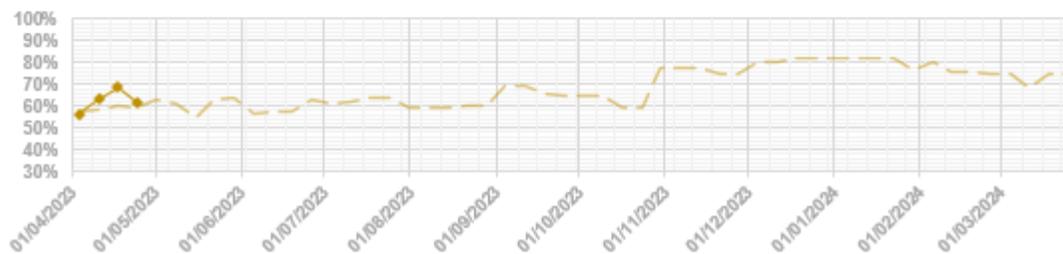
B6 TRANSFER CAPACITY

--- B6 FORECAST — B6

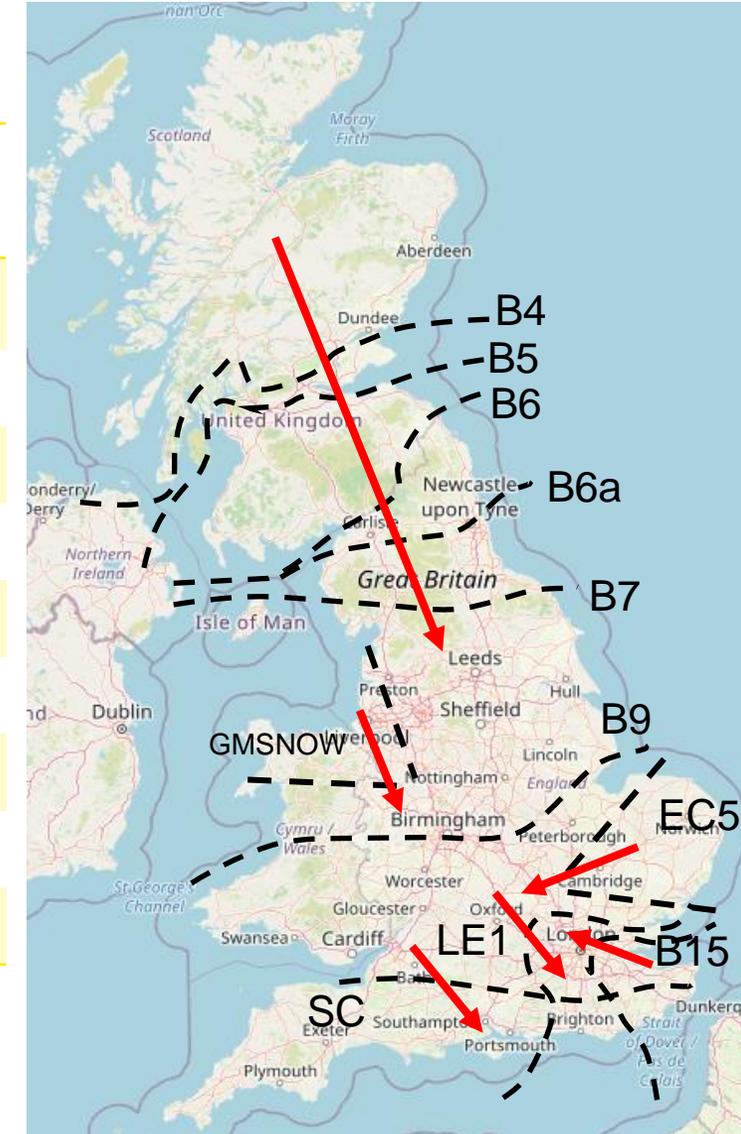


B6a (HARSPNBLY) TRANSFER CAPACITY

--- HAR SPNBLY FORECAST — HAR SPNBLY



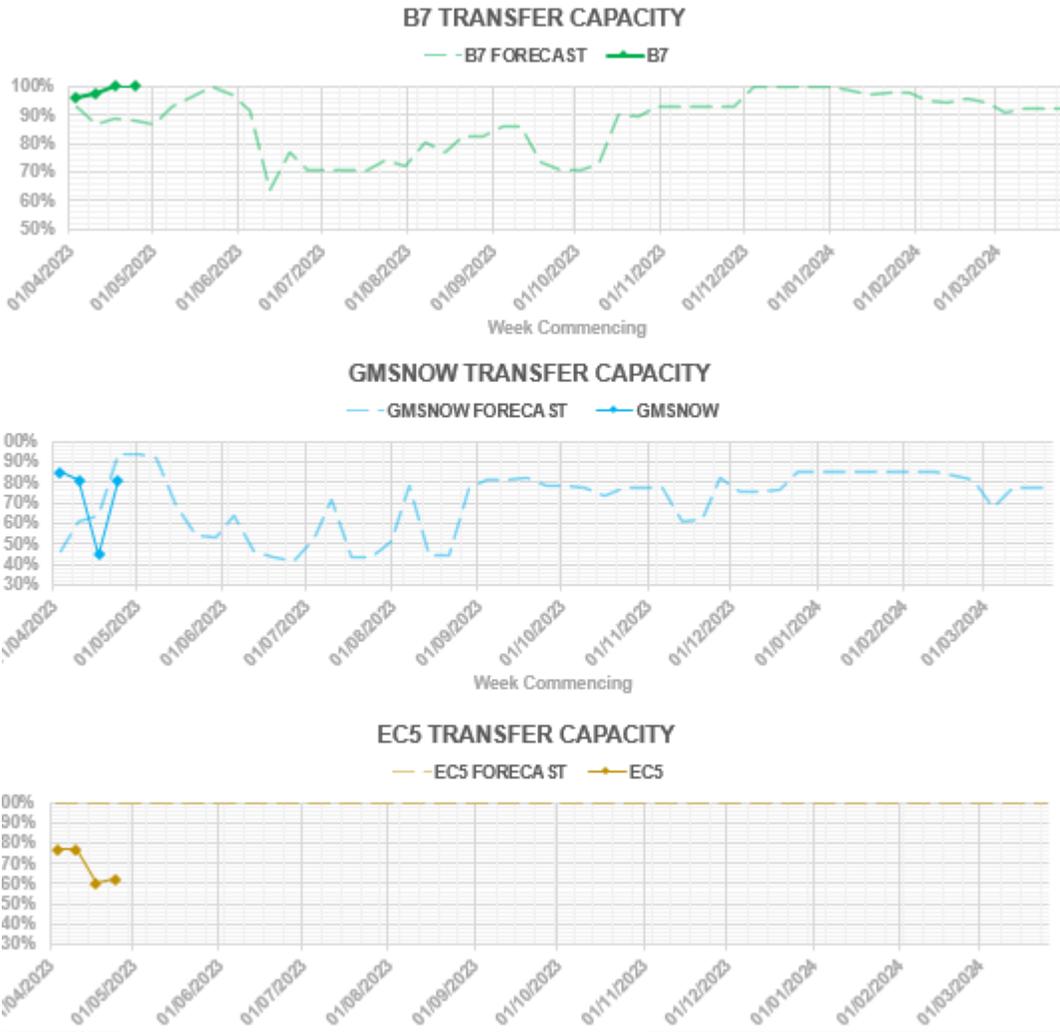
Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5 (SSE-SP)	3400	56%
B6 (SCOTEX)	6800	61%
HARSPNBLY	8000	62%
B7 (SSHARN)	8325	100%
GMSNOW	4700	81%
EC5	5000	62%
LE1 (SEIMP)	8500	75%
B15 (ESTEX)	7500	85%
SC	7300	72%



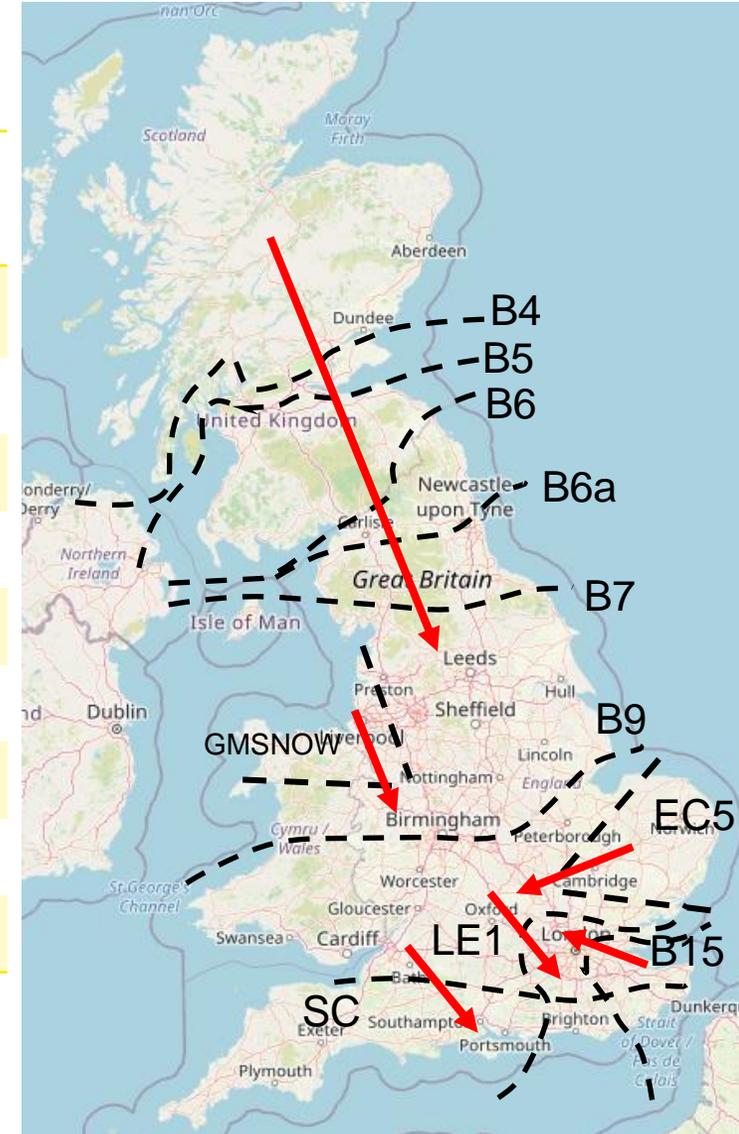
Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:

[Constraints Management](#)

Transparency | Network Congestion

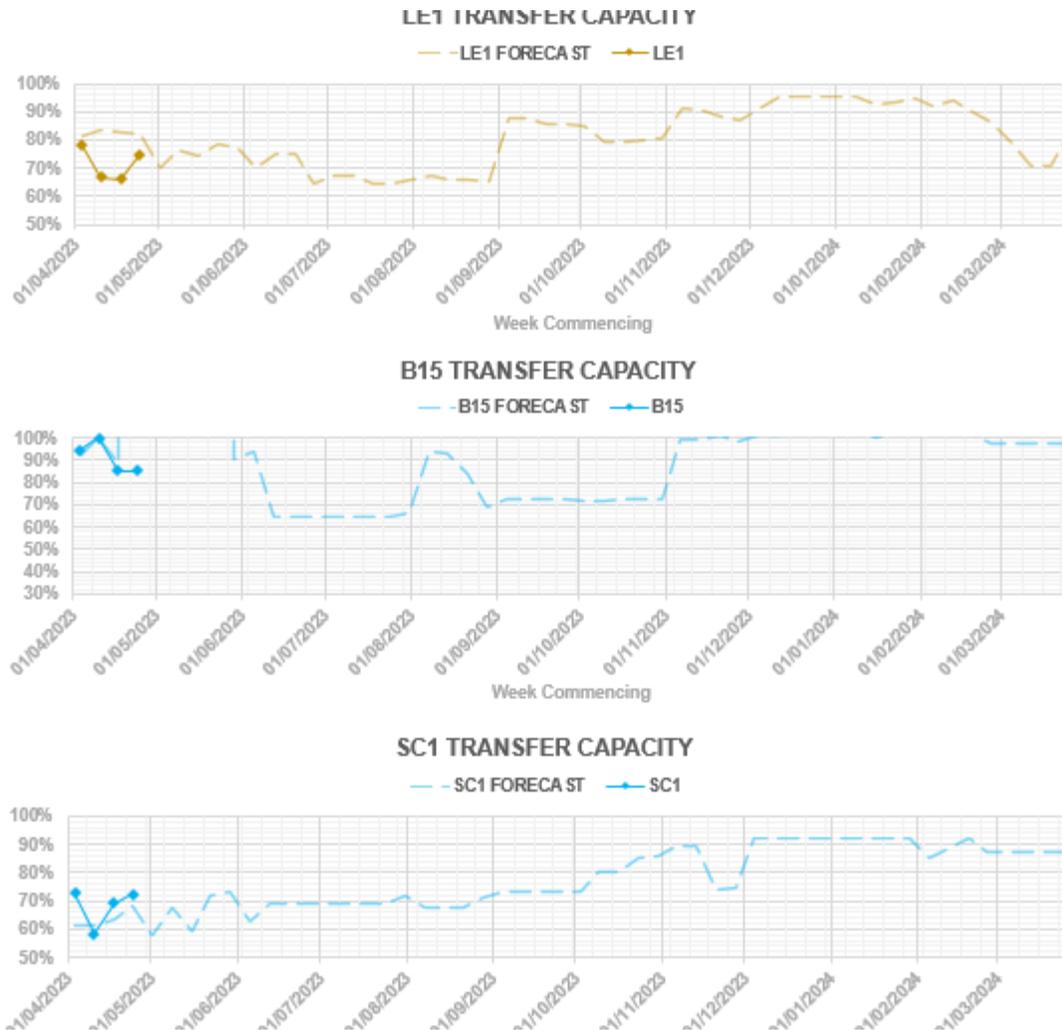


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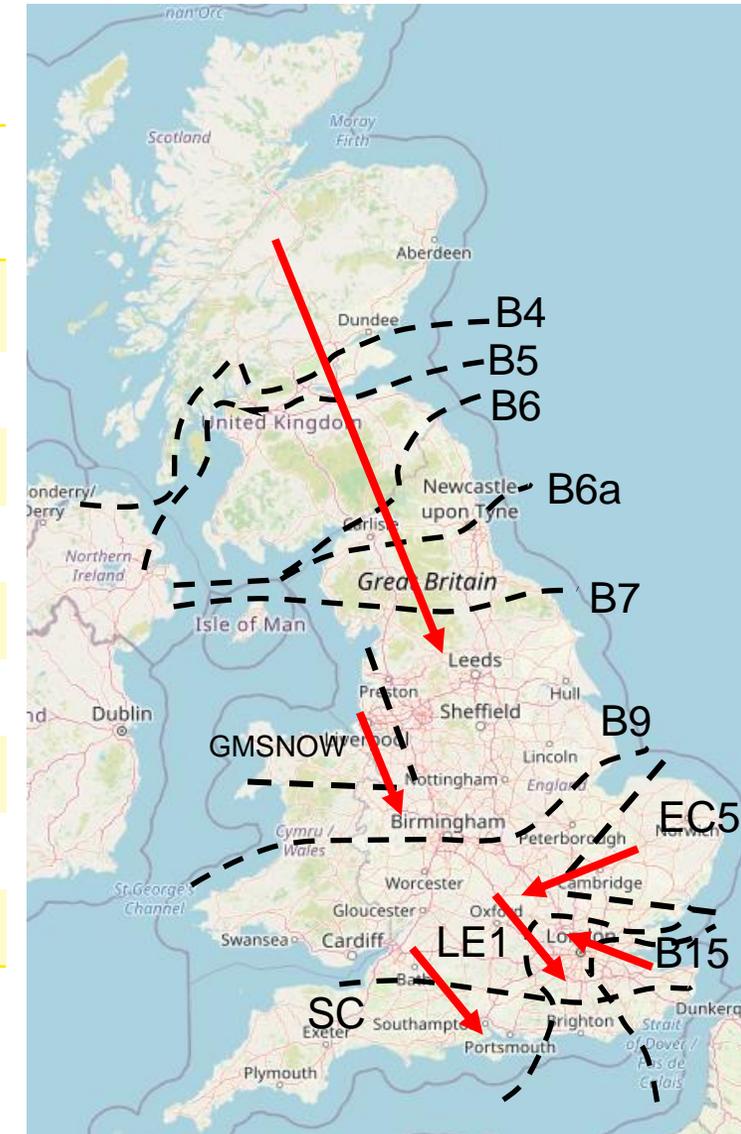


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Transparency | Network Congestion



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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: Why is your inertia "outturn" data not accurate and only an estimate given you have been using two companies (Reactive Tech and GE) to estimate real-time inertia. Are you not using this data yet then after 2 years?

A: We explained in past OTF how outturn inertia is calculated. Outturn inertia currently published on ESO portal is different to real-time inertia and we are working on that to improve our published data. We acknowledge that our real-time inertia estimation might not be 100% accurate; it is however the best information we can get from real-time operational metering, and it is based on the inertia methodology by which we have been operating for many years. We keep monitoring the system performance and will update our inertia model and tools to ensure system security.

Inertia data from Reactive Tech and GE are still under validation thus not used for operational decisions.

Our introduction of the inertia tools from Reactive Tech and GE were always envisaged to take some time as these were innovative products that were being implemented operationally for the first time and were dependent on the delivery of suitable measurement devices. For GE this is the rollout of Phasor Measurement Units (PMUs) at key locations which are still being installed by NGET.

It's worth noting that due to the way inertia is provided, all these methods will provide an estimate of inertia. The real-time systems enable an improved granularity over the methods used currently.

Previously asked questions

Q: The FRCR webinar overlaps with the Frequency Roadshow in Edinburgh, any chance it can be moved?

A: Thanks for the feedback. We have reviewed the arrangements for the Edinburgh Frequency Roadshow and the FRCR 2024 webinar and we can confirm that attendees at the roadshow will be able to join the webinar from the main venue.

If you are unable to join, you will be able to listen back to the webinar recording and access Q&As which will be published on our website.

Q: As per Lisa's questions - Energy Data Taskforce concluded transparency results in lower cost to consumer and better network outcome - anyone not supporting transparency of energy data has to justify why not, given EDT evidence that's transparency is better: presumption is to publish energy data.

A: ESO is committed to energy data transparency and we are working towards the framework of what can be published. We will share this with all stakeholders once the details are finalised.

Advance questions

Q: The Viking Interconnector tripped early Tuesday morning and put a REMIT out to say it was unavailable until 11pm 16/04/24. This was updated to return at 2pm on Tuesday at 12:30pm. Between the initial REMIT notification and the revision there continued to be within day trades executed across the interconnector according to ENTSOE data, surely this shouldn't be taking place given the Viking Link was unavailable? For example 12:00 – 13:00 switched from 200MW exports to Denmark to 275MW imports to the UK. Yet flows remained at zero from 05:00 – 13:30 on Tuesday. Am i missing anything silly?

A: ESO does not comment on the commercial operations of industry parties. However, we can share the following response which we have received from National Grid Ventures who own/operate Viking Link.

“Intraday transmission rights allocated prior to the outage occurring were held firm and remained available for customers to make nominations, including in the hour referenced. For more details on interconnectors’ firmness arrangements, refer to the individual interconnector’s access rules.”

For any further questions, please contact: Viking.CustomerEnquiries@nationalgrid.com

Q: Do you have a preliminary assessment of how useful Balancing Reserve has been so far in reducing balancing costs?

Submitted after Monday deadline – a response will be provided at next week’s forum.

Advance questions

Q: Ref. Market Roadmap 2024 inertia graph "ST Figure 3: Inertia management costs Jan 2021 - Dec 2023".

Could you please confirm if this is indeed a DAILY cost as the graph axis suggests (e.g. would suggest an average of circa £5,000 per GVAs per day of inertia management costs in October 2023 for example).

Or is it actually an hourly average when the BM action(s) is being taken?

I noted previous versions of this graph in older market roadmaps were not clear on the time horizon.

A: The dataset in question shows the average cost per unit of inertia for that day (£/GVA.s per day), calculated by summing the total cost of all inertia actions (£), divided by the total volume of inertia instructed (GVA.s) across all settlement periods of the day where there is an inertia deficit.

Please see this worked example:

1. ESO sum up the total cost of actions instructed in the BM which are tagged as system inertia for a given day.
2. ESO sum up the total volume of inertia shortfall (GVA.s) in each settlement period of the day.
3. ESO divide the total cost of inertia actions per day by the total volume of inertia shortfall (GVA.s) to give the average daily cost per GVA.s
 - Settlement Periods 4-7 (inclusive) = 1 GVA.s shortfall in each period replaced at total cost of £5,000.
 - Settlement Periods 8-11 (inclusive) = 4 GVA.s shortfall in each period replaced at total cost of £40,000.
 - Total cost for the day = £5,000 + £40,000 = £45,000
 - Total inertia volume instructed for the day (on SP basis) = (1 x 4 SPs) + (4 x 4 SPs) = 20 GVAs
 - Average daily inertia cost = (45,000 / 20) = £2,250/GVA.s

Outstanding questions

Q: We observed that units were dispatched in small volumes and out of merit this morning in the Balancing Mechanism. Is there a specific reason?

A: Please can you provide some specific examples for us to investigate to: box.NC.Customer@nationalgrideso.com

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
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- **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.
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