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ESO Operational Transparency Forum

1 May 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
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- **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

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

Future

Update: Grid Code Development Forum – 8th May

Update of Balancing Reserve – TBC

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

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.

Future Event Summary

Event	Date & Time	Link
Balancing Programme Webinar	27 th June 2024 9:30-17:30	Sign up here
Markets Forum	14 th May 2024 10:00-15:30	Sign up here
FRCR 2024 Consultation	10 th April - 17 th May 2024	Further Information
FRCR 2024 Webinar	1 st May 2024 13:00-14:00	Sign up here

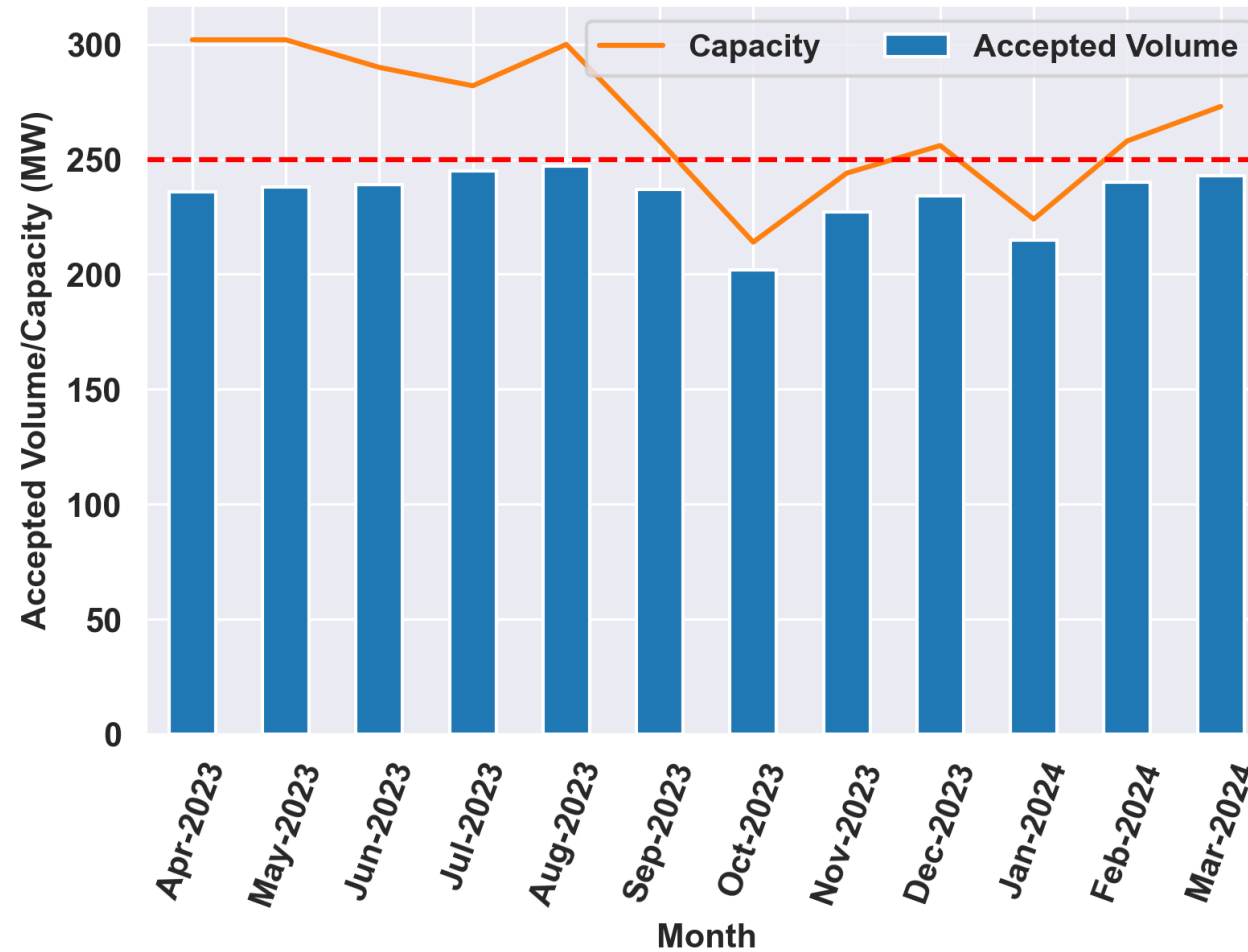


Impact of day ahead static FFR

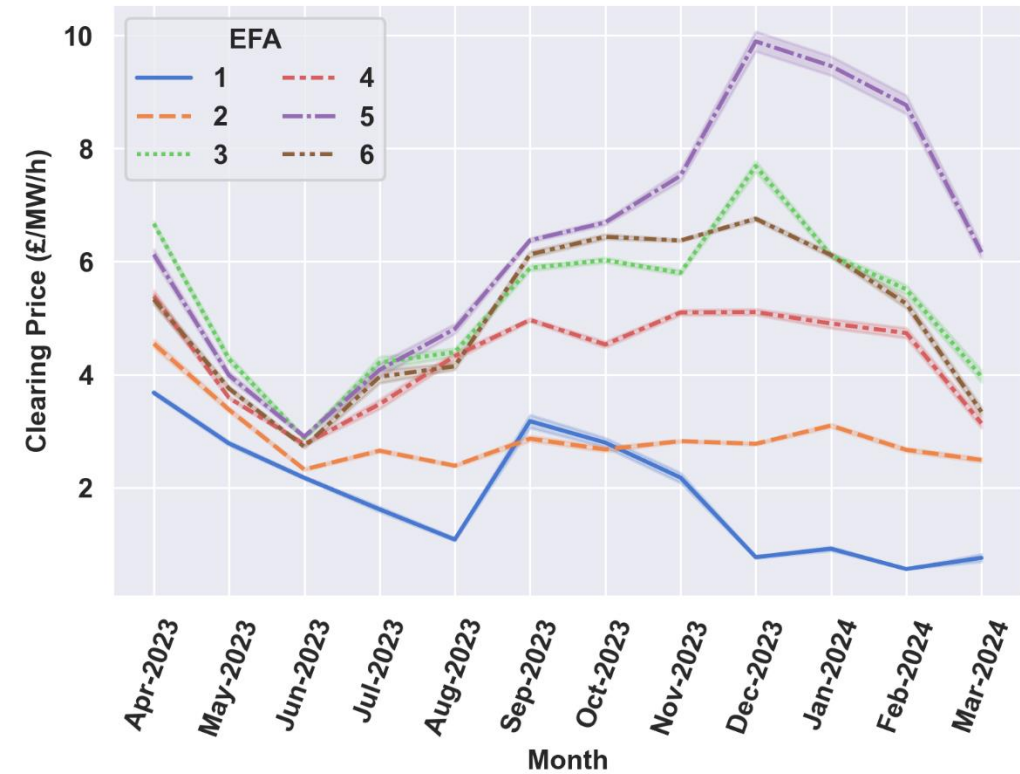
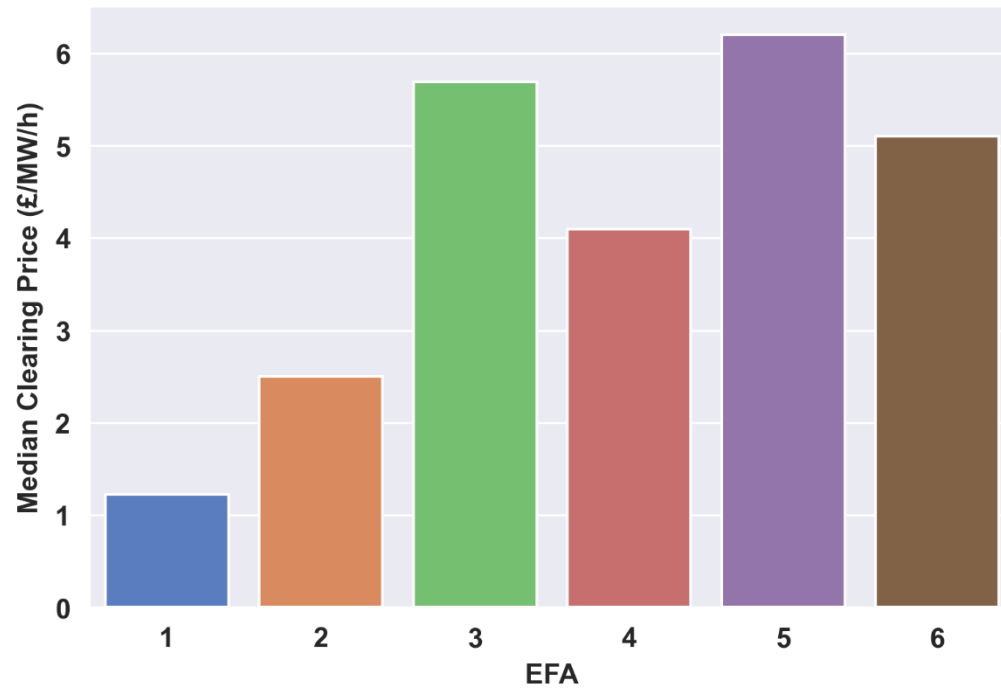
Highlights from April 2023 – March 2024

- Average Volume procured is 229.6 MW/h per EFA and Average Clearing price is £4.50 MW/h.
- Maximum average clearing price of £7.50 MW/h on 31st March 2024 and Minimum average clearing price of £2.10 MW/h on 8th August 2023.
- In the DA procurement, 10 providers offered 45 unique units, with participation from diesel generators, load response, and batteries in the auction.
- Received approx. 175,000 bids in 12 months.
- 84% of offered volume was accepted across all EFA's.

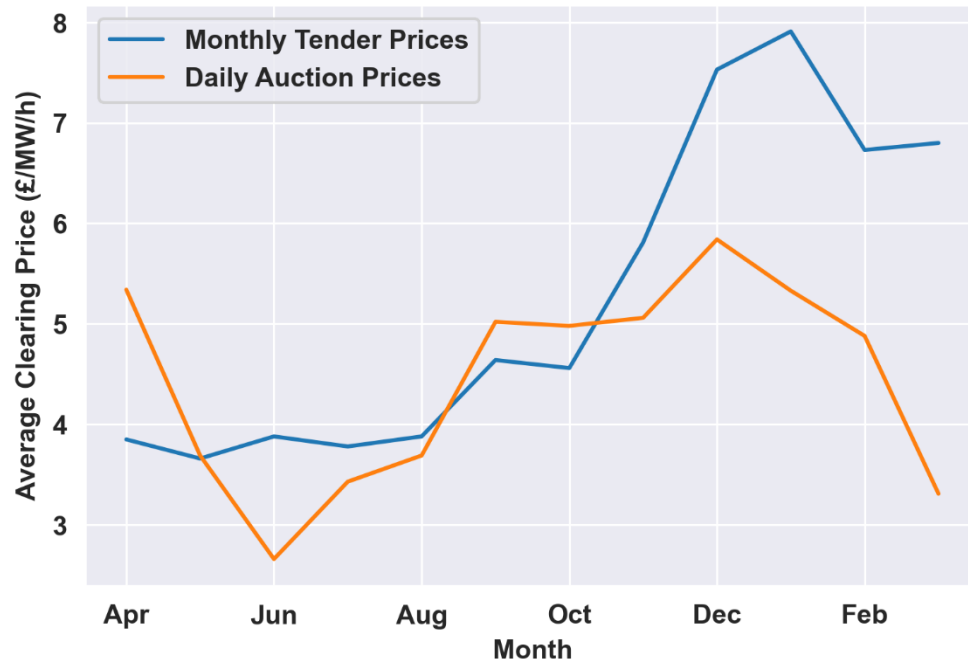
Capacity & Accepted Volume



Clearing Prices



Prices & Volume compared to Monthly Tenders (sFFR 22-23)

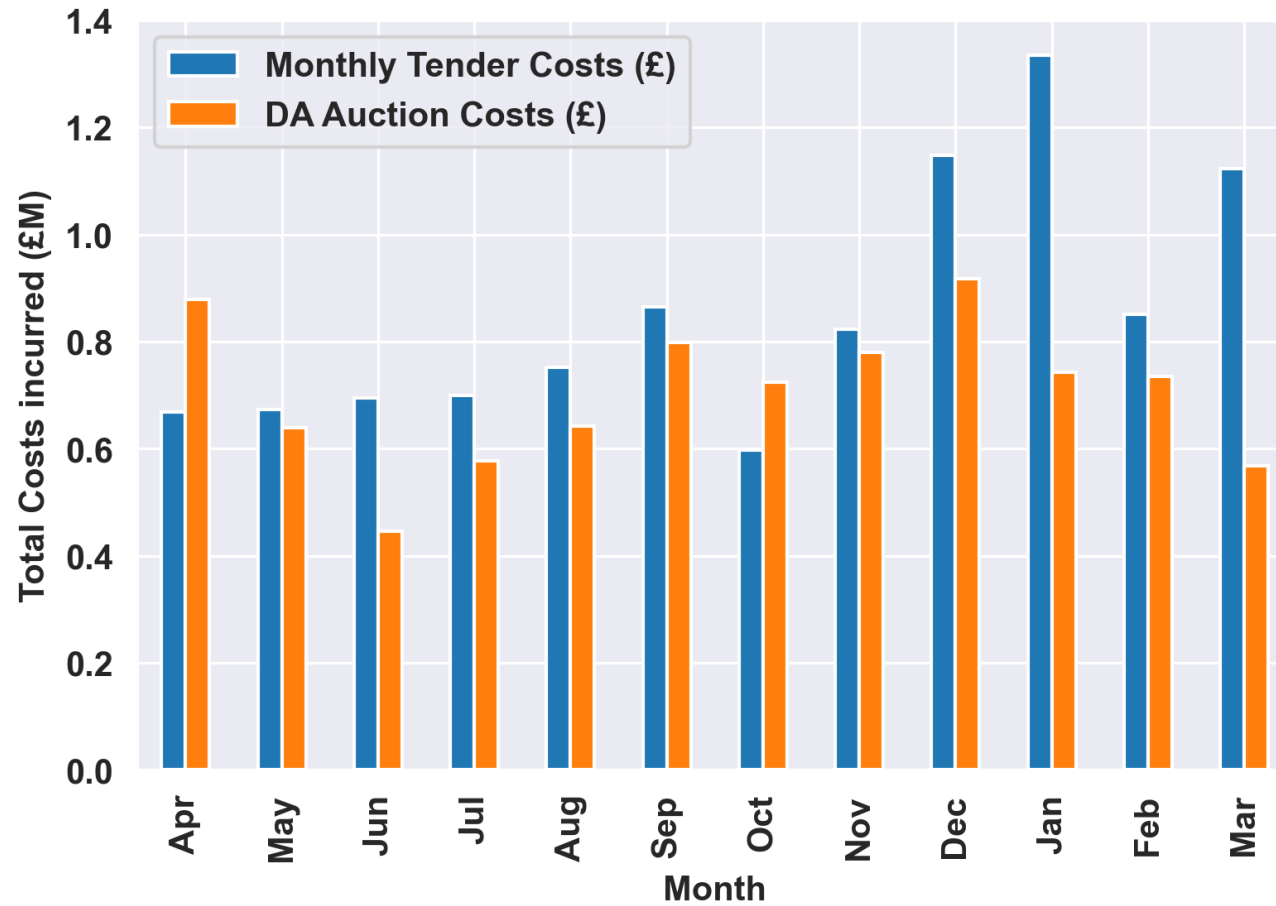


16% drop in clearing prices on average



Approximately 5% increase in clearing volumes with more consistent clearing

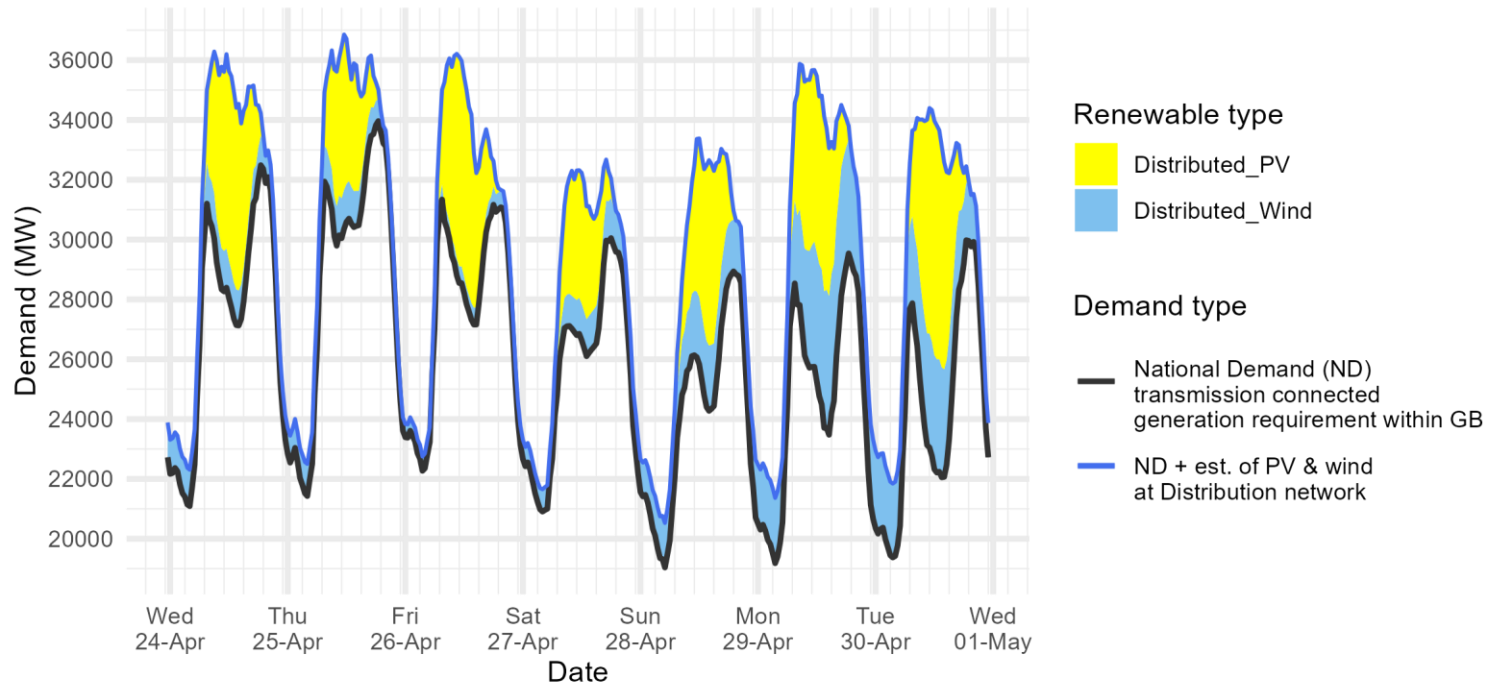
Total contract costs compared to Monthly Tenders (sFFR 22-23)



Total cost reduction = £1.78 million

Demand | Last week demand out-turn

ESO National Demand outturn 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.

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

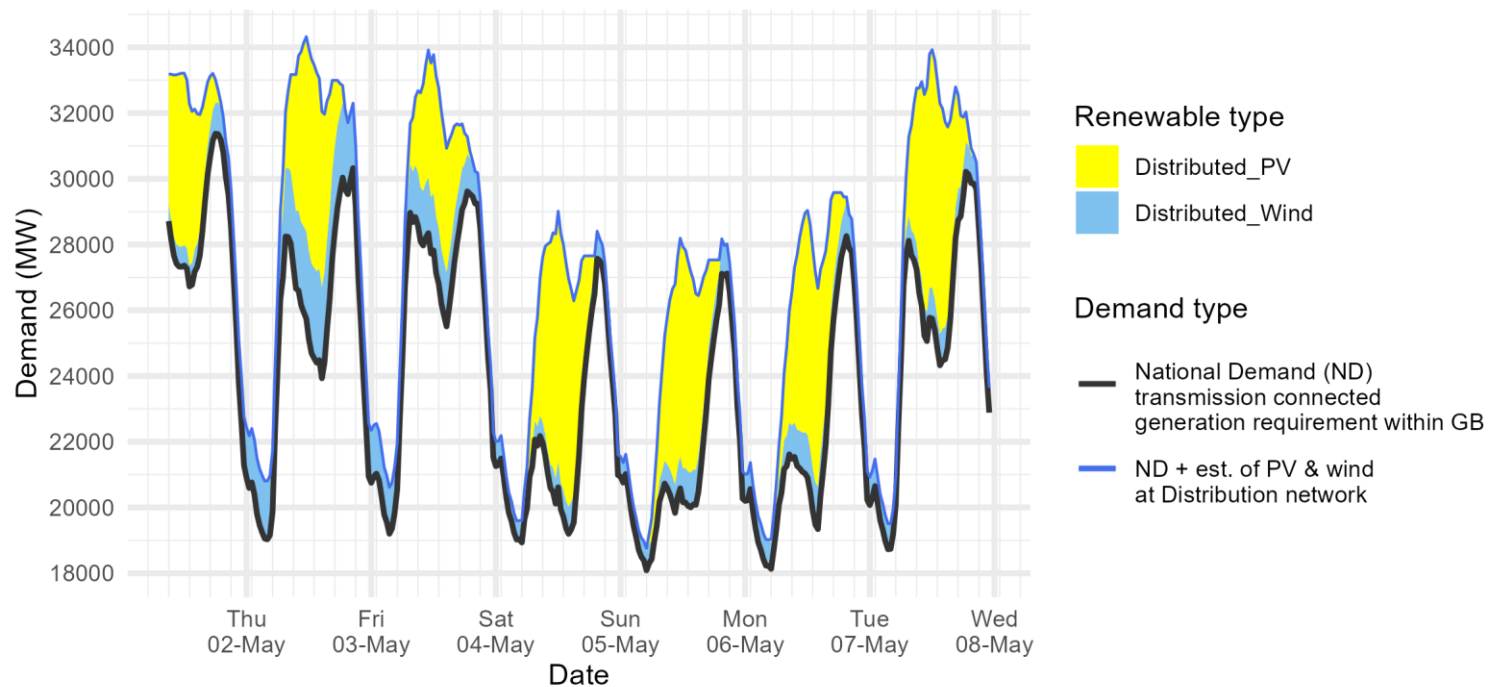
Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it does not include demand supplied by non-weather driven sources at the distributed network for which ESO has no real time data.

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 24 Apr)			OUTTURN		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
24 Apr	Afternoon Min	26.4	1.4	6.6	27.1	1.2	6.2
25 Apr	Overnight Min	21.4	1.1	0.0	21.4	1.1	0.0
25 Apr	Afternoon Min	27.3	1.2	5.6	30.4	1.2	4.3
26 Apr	Overnight Min	21.9	0.3	0.0	22.3	0.5	0.0
26 Apr	Afternoon Min	27.7	0.5	5.3	27.2	0.6	5.2
27 Apr	Overnight Min	20.9	0.6	0.0	20.9	0.7	0.0
27 Apr	Afternoon Min	24.2	1.2	4.1	26.1	1.2	3.8
28 Apr	Overnight Min	19.2	1.1	0.0	19.0	1.5	0.0
28 Apr	Afternoon Min	22.8	1.6	5.5	24.3	2.2	6.2
29 Apr	Overnight Min	20.1	0.9	0.0	19.2	2.2	0.0
29 Apr	Afternoon Min	25.1	1.6	6.7	23.5	4.6	4.9
30 Apr	Overnight Min	20.2	1.3	0.0	19.4	2.5	0.0
30 Apr	Afternoon Min	24.7	2.0	6.6	22.1	3.7	7.4

Demand | Week Ahead

ESO Demand forecast for 01-07 May 2024



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

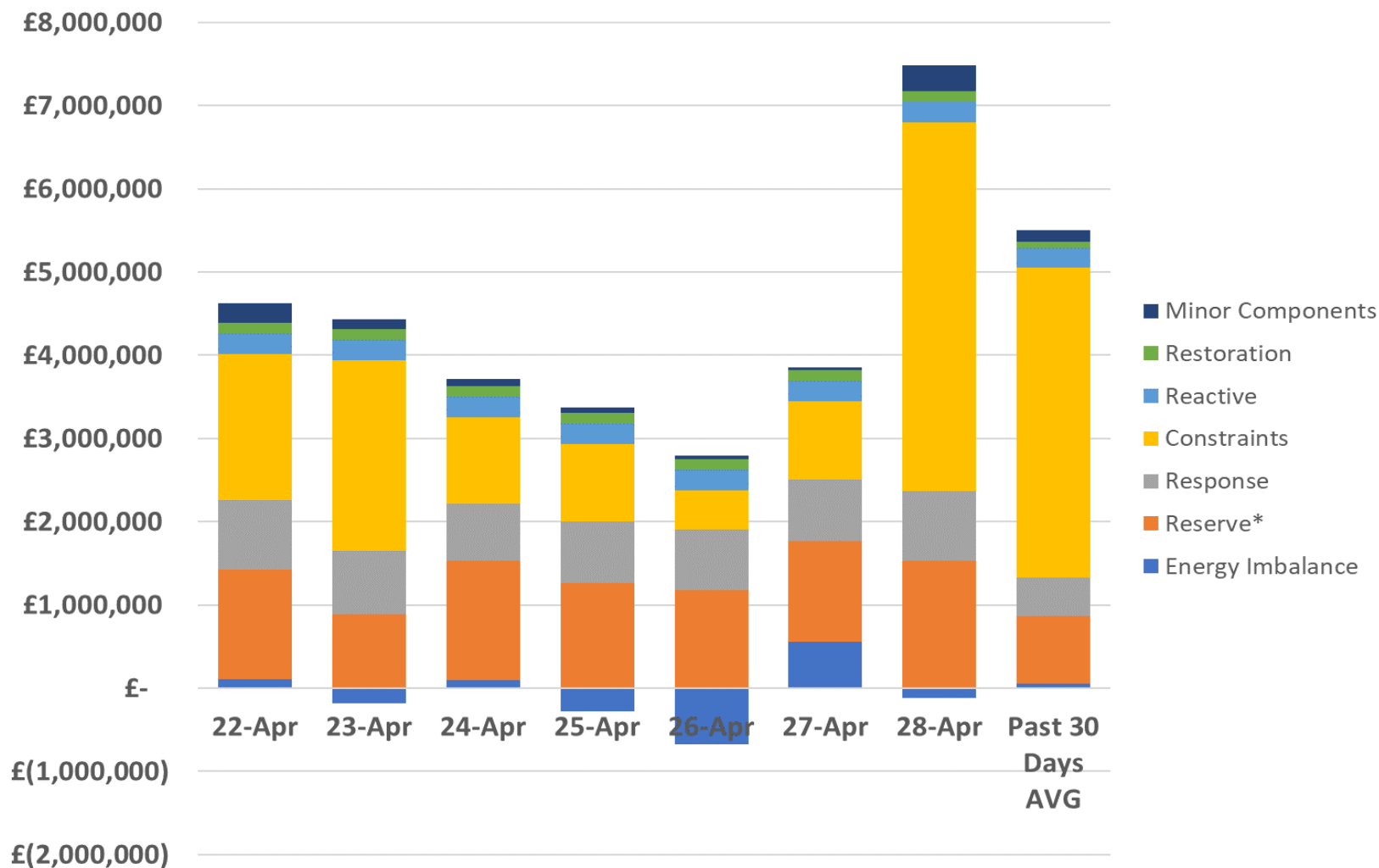
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Date	Forecasting Point	FORECAST (Wed 01 May)		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
01 May 2024	Afternoon Min	26.7	0.6	4.9
02 May 2024	Overnight Min	19.0	1.8	0.0
02 May 2024	Afternoon Min	23.9	2.8	5.3
03 May 2024	Overnight Min	19.2	1.4	0.0
03 May 2024	Afternoon Min	25.5	1.6	3.8
04 May 2024	Overnight Min	18.9	0.6	0.1
04 May 2024	Afternoon Min	19.2	0.8	6.9
05 May 2024	Overnight Min	18.1	0.6	0.1
05 May 2024	Afternoon Min	20.0	1.1	6.1
06 May 2024	Overnight Min	18.1	0.8	0.1
06 May 2024	Afternoon Min	19.3	1.3	6.0
07 May 2024	Overnight Min	18.7	0.8	0.0
07 May 2024	Afternoon Min	24.3	1.0	7.0

ESO Actions | Category costs breakdown for the last week



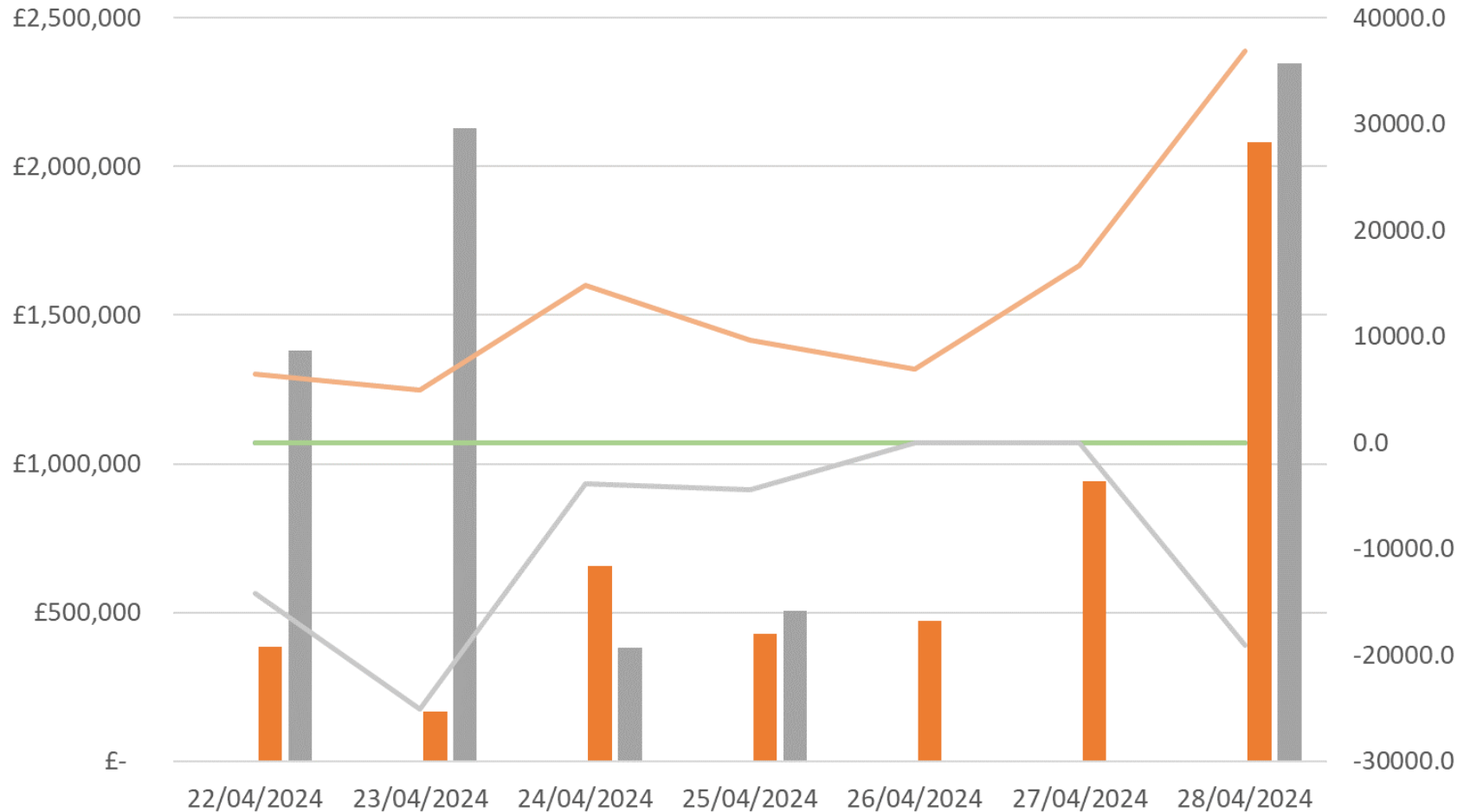
Date	Total (£m)
22/04/2024	4.6
23/04/2024	4.3
24/04/2024	3.7
25/04/2024	3.1
26/04/2024	2.1
27/04/2024	3.9
28/04/2024	7.4
Weekly Total	29.0
Previous Week	54.5

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 Friday and Saturday

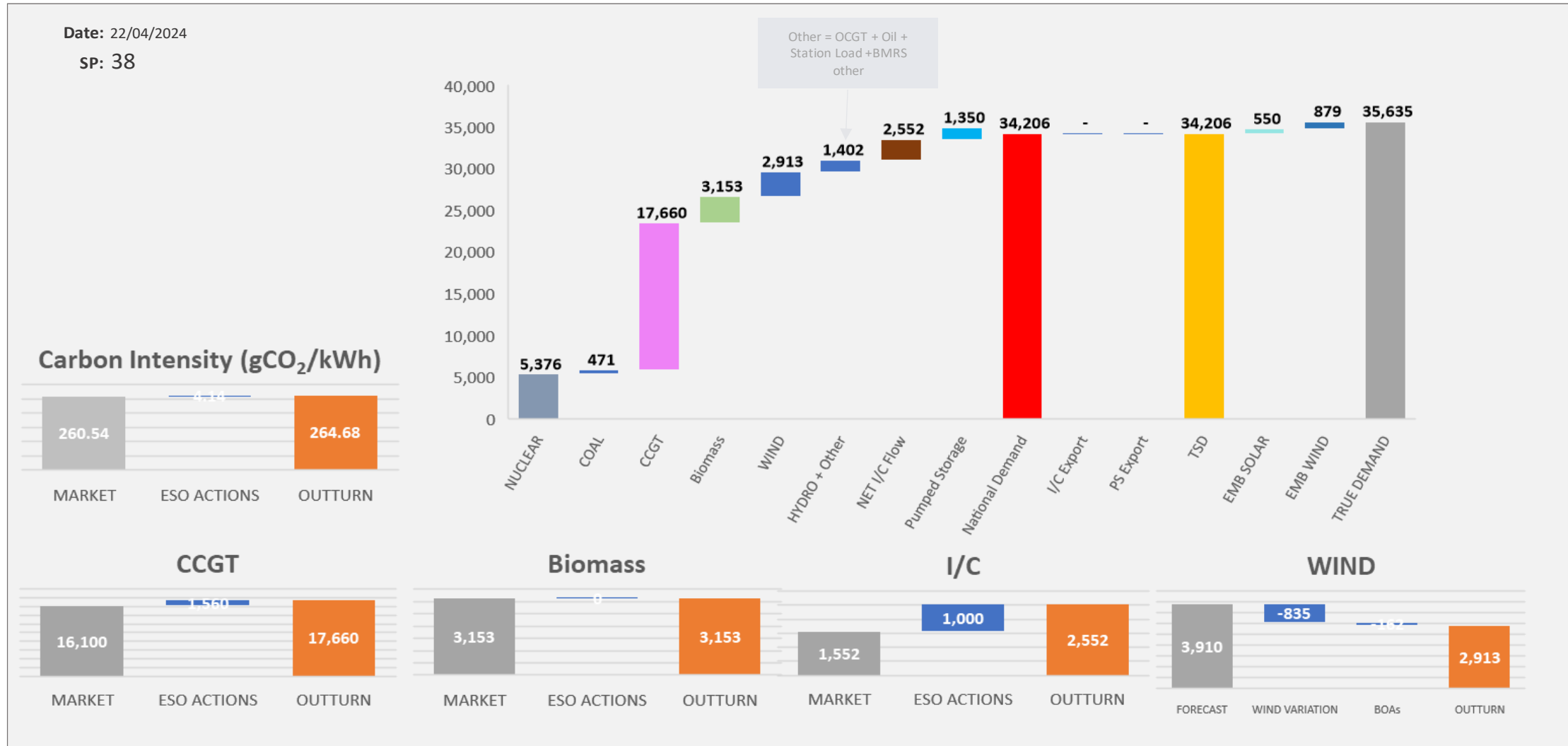
Voltage
 Intervention was required to manage voltage levels throughout the week.

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

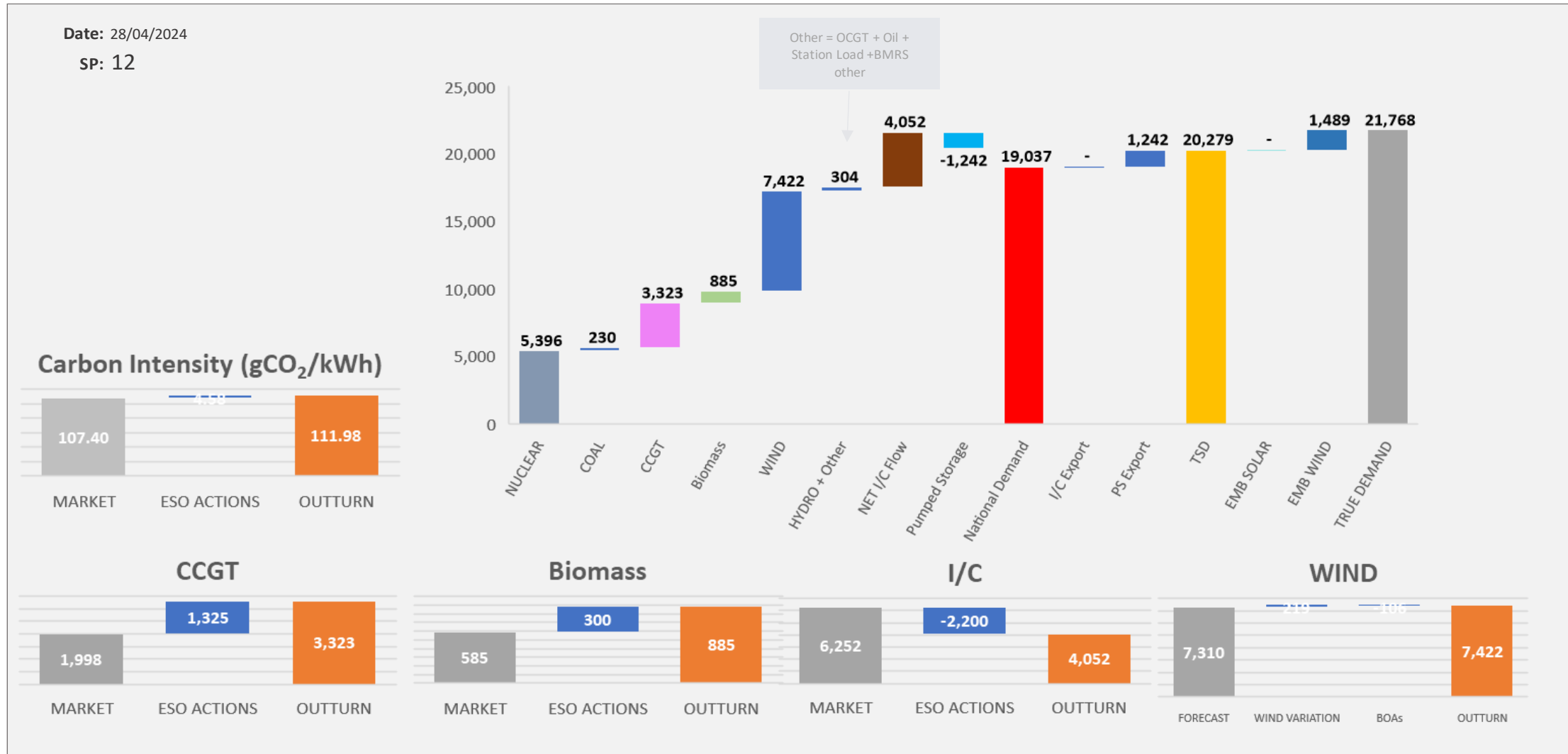
Increasing inertia
 No intervention was required to manage System Inertia this week.

- Reducing largest loss cost
- Increasing system inertia cost
- Voltage constraints cost
- Thermal constraints cost
- Reducing largest loss volume
- Increasing system inertia volume
- Voltage constraints volume
- Thermal constraints volume

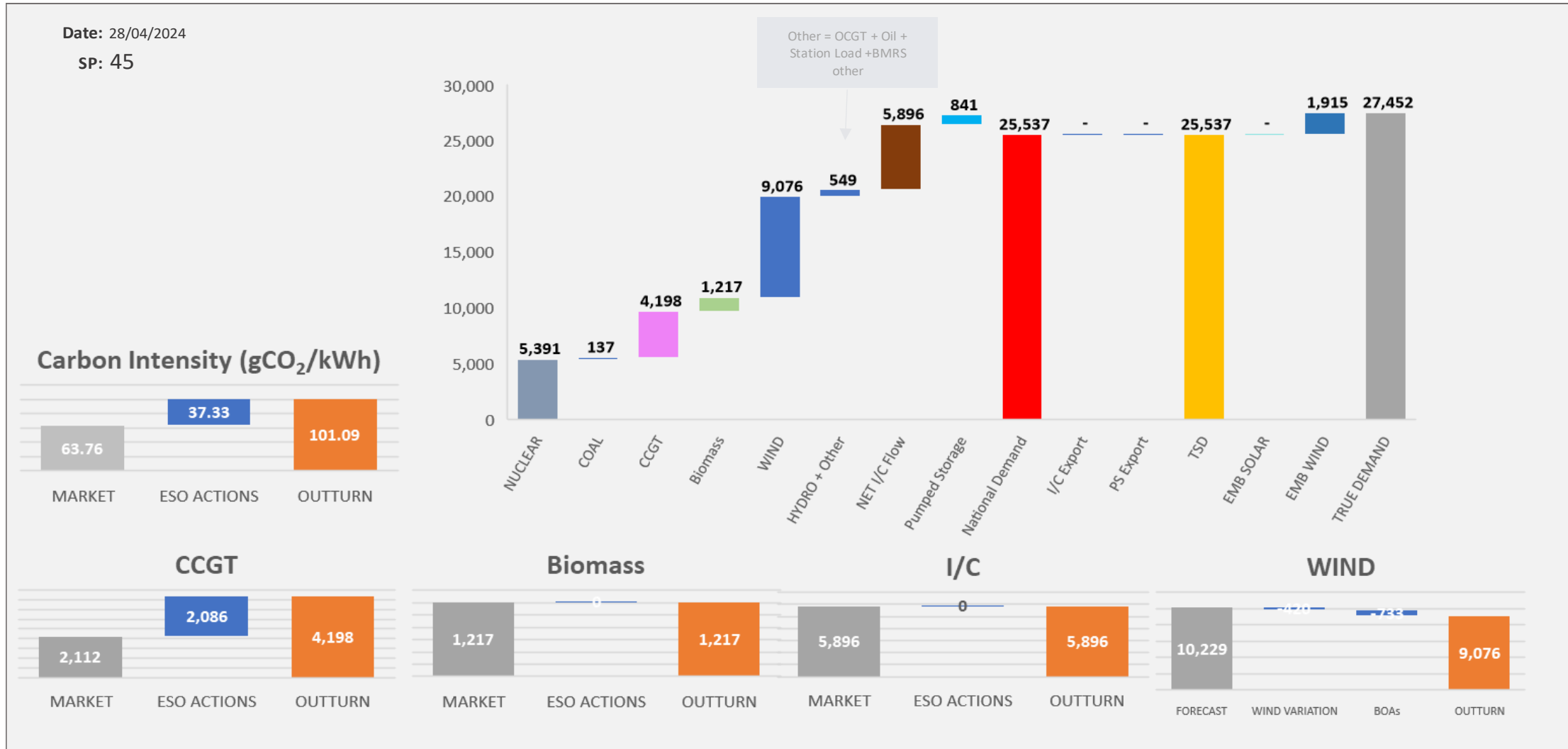
ESO Actions | Monday 22 April – Peak Demand – SP spend ~£109k



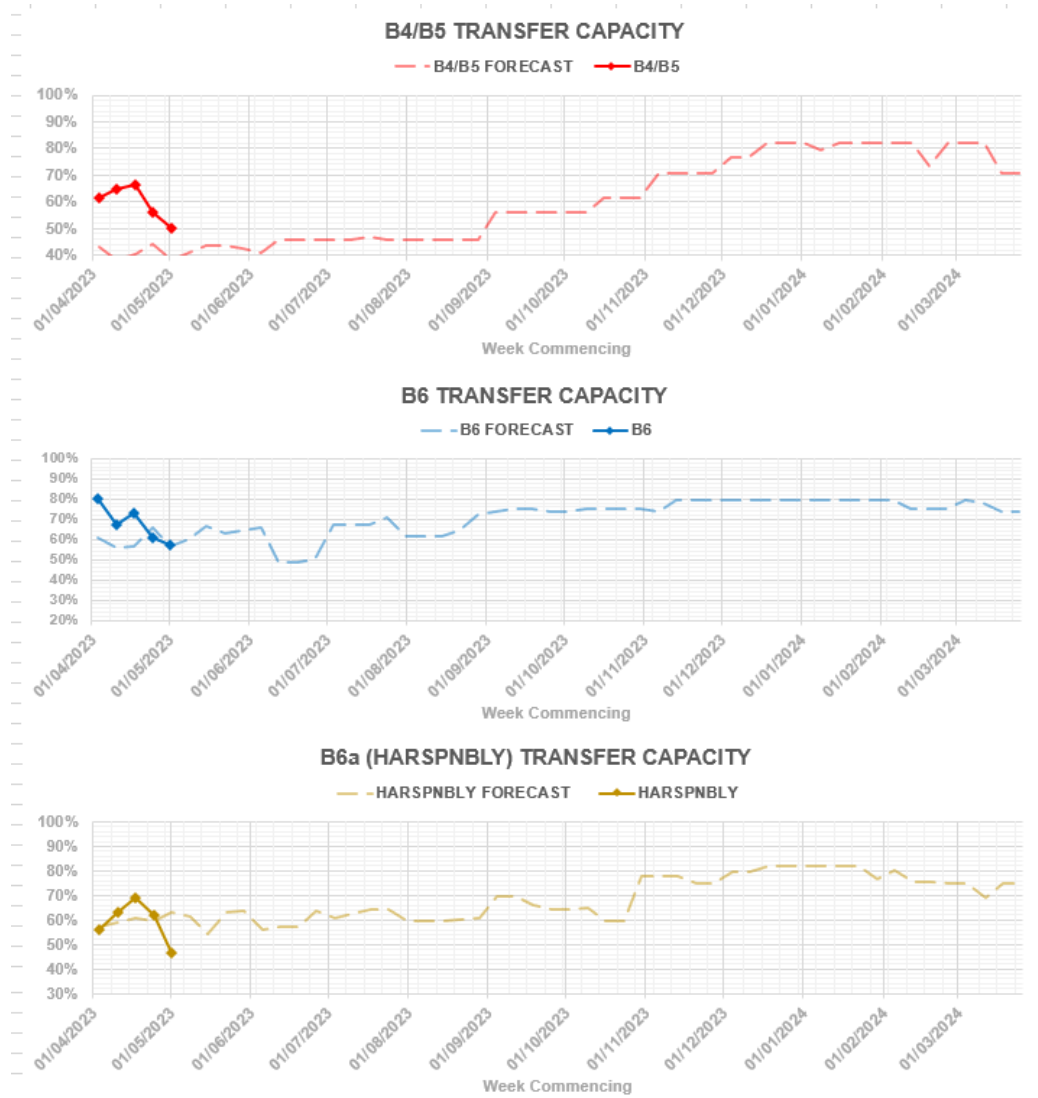
ESO Actions | Sunday 28 April – Minimum Demand – SP Spend ~£162k



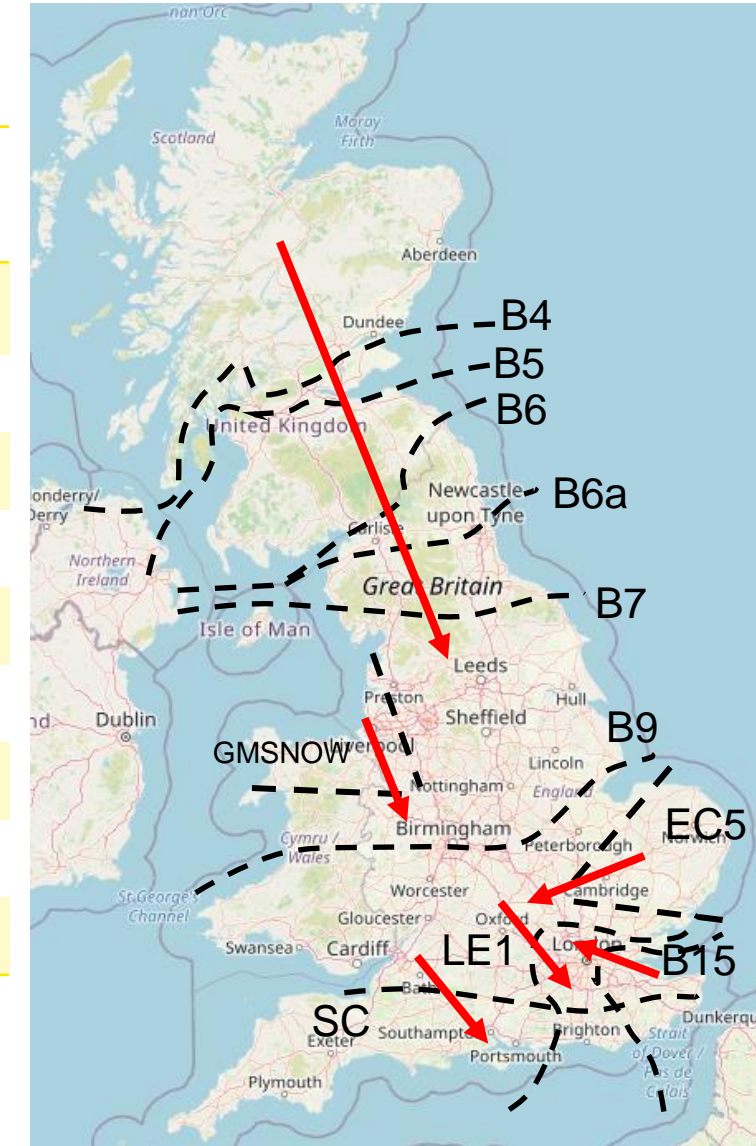
ESO Actions | Sunday 28 April – Highest SP Spend ~£238k



Transparency | Network Congestion



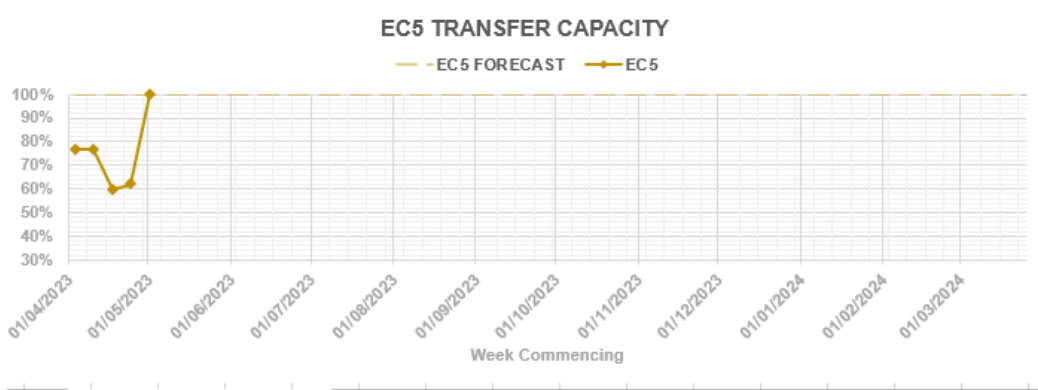
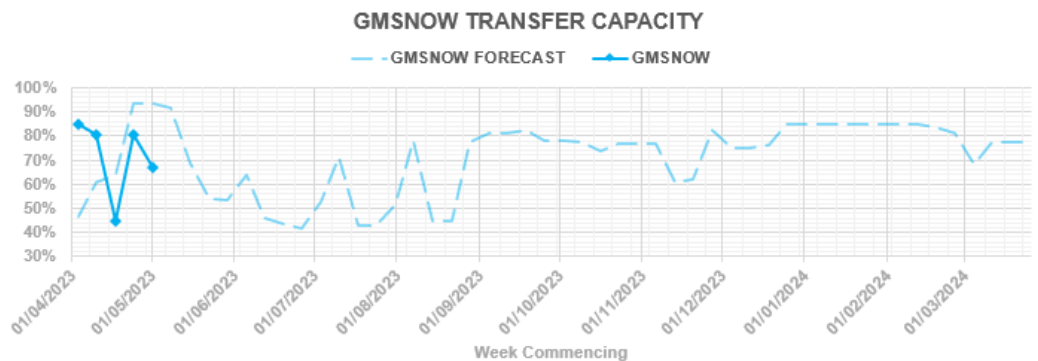
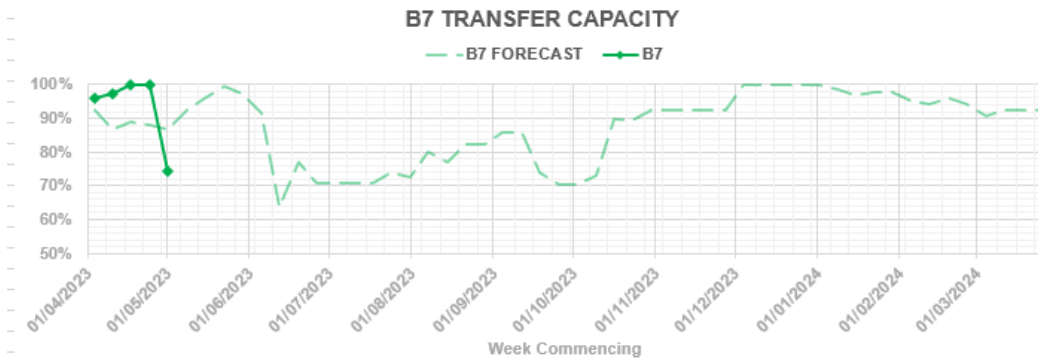
Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5 (SSE-SP)	3400	50%
B6 (SCOTEX)	6800	57%
HARSPNBLY	8000	47%
B7 (SSHARN)	8325	74%
GMSNOW	4700	67%
EC5	5000	100%
LE1 (SEIMP)	8500	55%
B15 (ESTEX)	7500	70%
SC	7300	71%



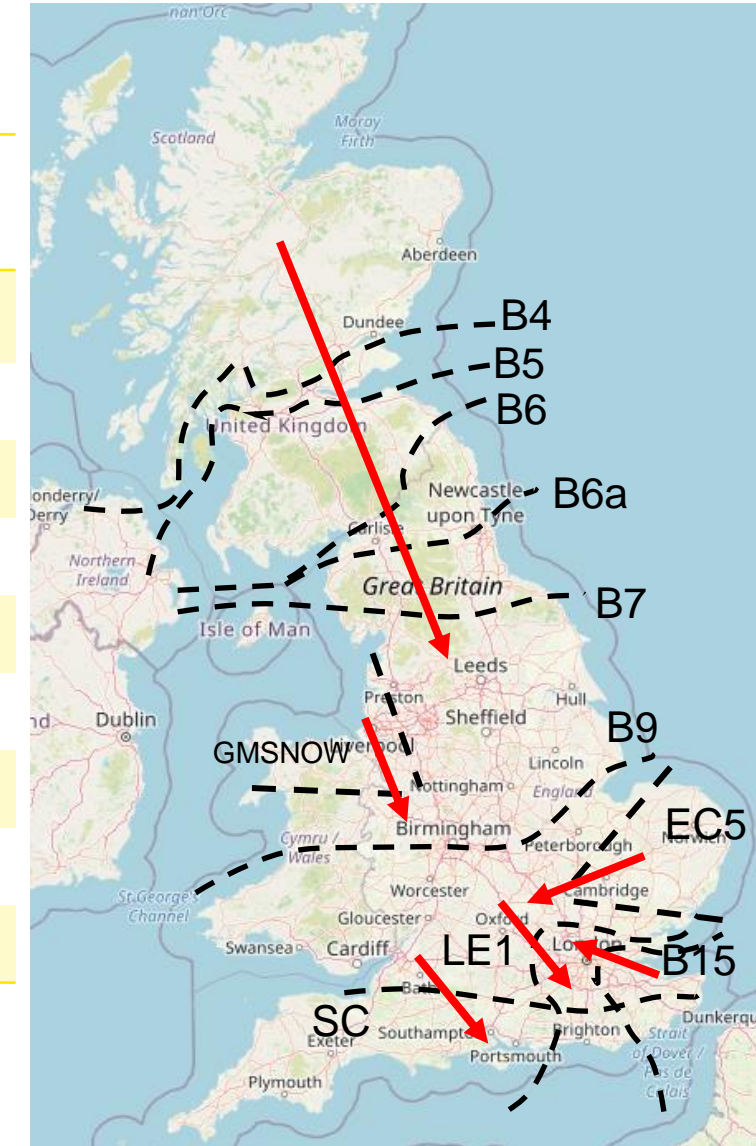
Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal:

[Constraints Management](#)

Transparency | Network Congestion

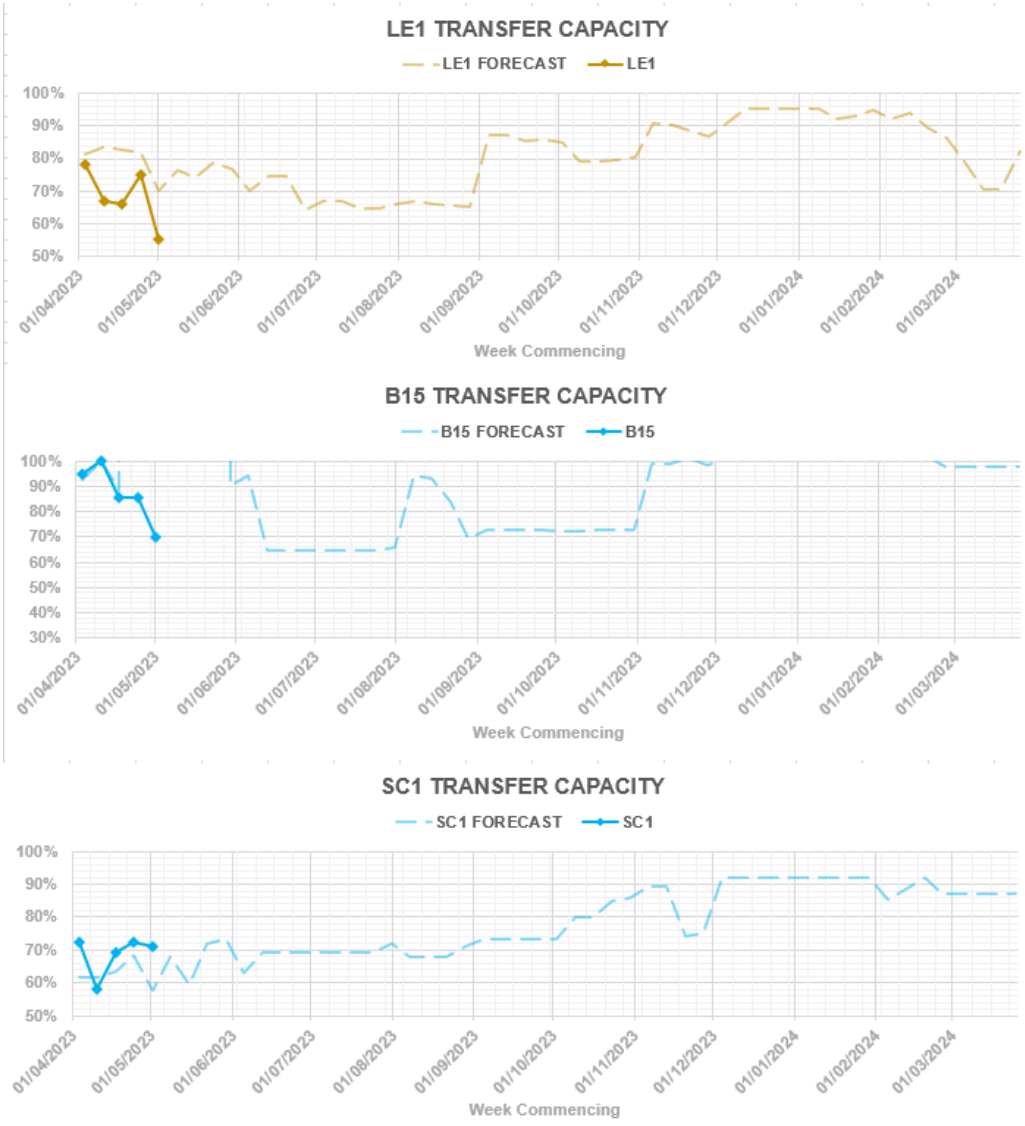


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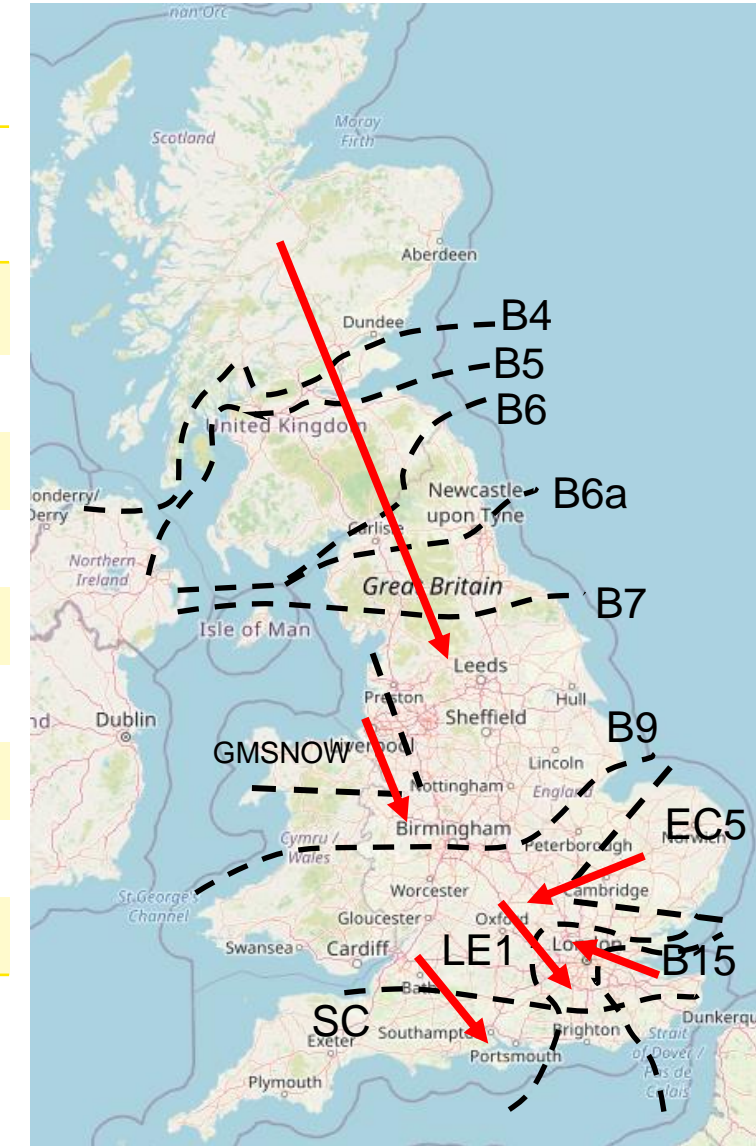


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Transparency | Network Congestion



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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: Re the question on use of inertia measurement it may be useful to highlight the related innovation project.

A: Thank you for the feedback

Q: When are we going to get data that is demand by DNO? We need to see actual demand (minus wind and solar) so we can monitor changes caused by EVs, etc.

A: We answered a very similar question on the 5th of October last year as follows:

“This data is not available to or owned by the ESO and requests for publication should be directed to the relevant DNO.”

Q: So can you update the transfer capacity forecasts? A year out they seem to be useless. If you were subject to TCLC this could be important.

A: Thank you for your question. As pointed out, the forecast values don't always line up with the real time values we use. This topic was covered in detail during our [constraints deep dive session](#). In short, the forecast data comes from a year ahead of time. Changes to system occurs through delays, unforeseen issues etc. This has the overall effect of changing the system topology for a given period. In other words, the scenario at year and the scenario at day ahead are different, so the values are different. Change doesn't always occur, but when it does, it leads to different values. This can affect generators that are constrained because of this, but it is part of how we manage the system day to day.

Previously asked questions

Q: Can you please stop referring to Transmission Demand as "national demand" as its no longer true with so much DN generation as discussed over last 2ys.It is completely misleading and if you need to change the Gcode to correct this then pls do so as it no longer makes any sense to present it this way.

A: We endeavour to use the correct term when referring to demand as we recognise there are different definitions. We use the definition for 'National Demand' as given in Grid Code. We include this definition on the demand slides to avoid confusion.

Grid Code is subject to open governance which means that any Grid Code parties are able to propose modifications. More information about modifications can found [here](#).

Definitions for National Demand can be found [here](#)

'National Demand is calculated as a sum of generation based on National Grid ESO operational generation metering.'

Q: There is a need for different demand breakdowns, considering embedded generation, behind-the-meter generation, embedded and BtM storage. Could we try to introduce these informally, so estimates could be used (e.g. Sheffield PV)? This could be a basis for formal, live-metered definitions later.

A: The 'Daily Demand' dataset that we publish includes National Demand (as defined in the Grid Code) and estimates of embedded wind and PV: <https://www.nationalgrideso.com/data-portal/daily-demand-update>.

You are very welcome to download this dataset and substitute the PV estimate with Sheffield Solar data (though that is already what we use for the modelled 'actuals').

Advance questions

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

A: We continue to analyse the impact of BR on Balancing Costs. The metrics we are focussing on are Accepted Bid and Offer prices for margin in the BM, available headroom and any impact on other reserve services such as Fast Reserve. This is still a work in progress, and we will be able to share more at a deep dive in the near future.

Q: Do you have a centralised page where I can see all webinars and other video based resources provided by ESO?

A: We don't currently have a centralised page. We are considering options for a video library as we develop the upcoming NESO website.

Q: Are you concerned that the units that have been consistently getting run in the BM with a system flag are pricing strategically high because they know they are needed for system reasons? Particularly as it relates to TCLC.

A: The ESO market monitoring team review all transactions in the BM against market rules in REMIT and against generator licence conditions such as the TCLC (Transmission Constraint Licence Condition) or IOLC (Inflexible Offers Licencing Condition). Where appropriate we contact providers and/or escalate this to the regulator for consideration of penalty actions. It is for each individual operator to consider their pricing strategies against applicable market rules.

We encourage you to flag any specific instances to market monitoring for review at: MarketReporting@nationalgrideso.com

Advance questions

Q: Most of the EU TOs issue the power system transmission model at least through ENTSO-E publication. Technical data from Appendix B would not allow to create a reliable model as quadratic boosters, taps settings on transformers and voltage control setpoints are not included at the report. Could you please confirm whether there is a plan the model to be shared with parties who have generation subject to curtailment? Without the power system model, the model created by Appendix B will be unreliable without the missing information mentioned above.

Q: For non-firm connections how often the restricted MW value calculated and communicated to customers from National outage planning currently? Is it hourly, daily, weekly task? This influences massively the curtailment percentage. Will NGESO use market mechanisms for project output.

Q: For non-firm connections normally NGESO provides the circuits which in case of an outage will result at MW reduced export value. ETYS publish the boundary limits for areas. Could you please confirm whether a boundary flow exceedance (not circuit overload) due to an outage at a circuit in Appendix D are compensated or not as appendix D normally refers to circuits overload. A good example is SC2 Boundary.

We are still working on a response to these questions.

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:

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Remember, if you have reasons to remain anonymous to the wider forum, or have concerns your question may not be one to ask in public, you can use the advance questions or email options.

Purpose and scope of the ESO Operational Transparency Forum

Purpose

The Operational Transparency Forum runs once a week to provide updated information on and insight into the operational challenges faced by the control room in the recent past (1-2 weeks) and short term future (1-2 weeks). The OTF will also signpost other ESO events, provide deep dives into focus topics, and allow industry to ask questions.

Scope

Aligns with purpose, see examples below:

In Scope of OTF

Material presented i.e.: regular content, deep dives, focus topics
ESO operational approach & challenges
ESO published data

Out of Scope of OTF

Data owned and/or published by other parties
e.g.: BMRS is published by Elexon
Processes including consultations operated by other parties e.g.: Elexon, Ofgem, DESNZ
Data owned by other parties
Details of ESO Control Room actions & decision making
Activities & operations of particular market participants
ESO policy & strategic decision making
Formal consultations e.g.: Code Changes, Business Planning, Market development

Managing questions at the ESO Operational Transparency Forum

- OTF participants can ask questions in the following ways:
 - Live via Slido code #OTF
 - In advance (before 12:00 on Monday) at <https://forms.office.com/r/k0AEfKnai3>
 - At any time to box.NC.Customer@nationalgrideso.com
- **All questions asked through Sli.do** will be recorded and published, with answers, in the Operational Transparency Forum Q&A on the webpage: [Operational Transparency Forum | ESO \(nationalgrideso.com\)](#)
- **Advance questions** will be included, with answers, in the slide pack for the next OTF and published in the OTF Q&A as above.
- **Email questions** which specifically request inclusion in the OTF will be treated as Advance questions, otherwise we will only reply direct to the sender.
- **Takeaway questions** – we may ask you to contact us by email in order to clarify or confirm details for the question.
- **Out of scope questions** will be forwarded to the appropriate ESO expert or team for a direct response. We may ask you to contact us by email to ensure we have the correct contact details for the response. These questions will not be managed through the OTF, and we are unable to forward questions without correct contact details. Information about the OTF purpose and scope can be found in the appendix of this slide pack