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ESO Operational Transparency Forum

30 March 2022

nationalgridESO

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 email: box.NC.Customer@nationalgrideso.com

These slides, event recordings and further information about the webinars can be found at the following location:
https://data.nationalgrideso.com/plans-reports-analysis/covid-19-preparedness-materials

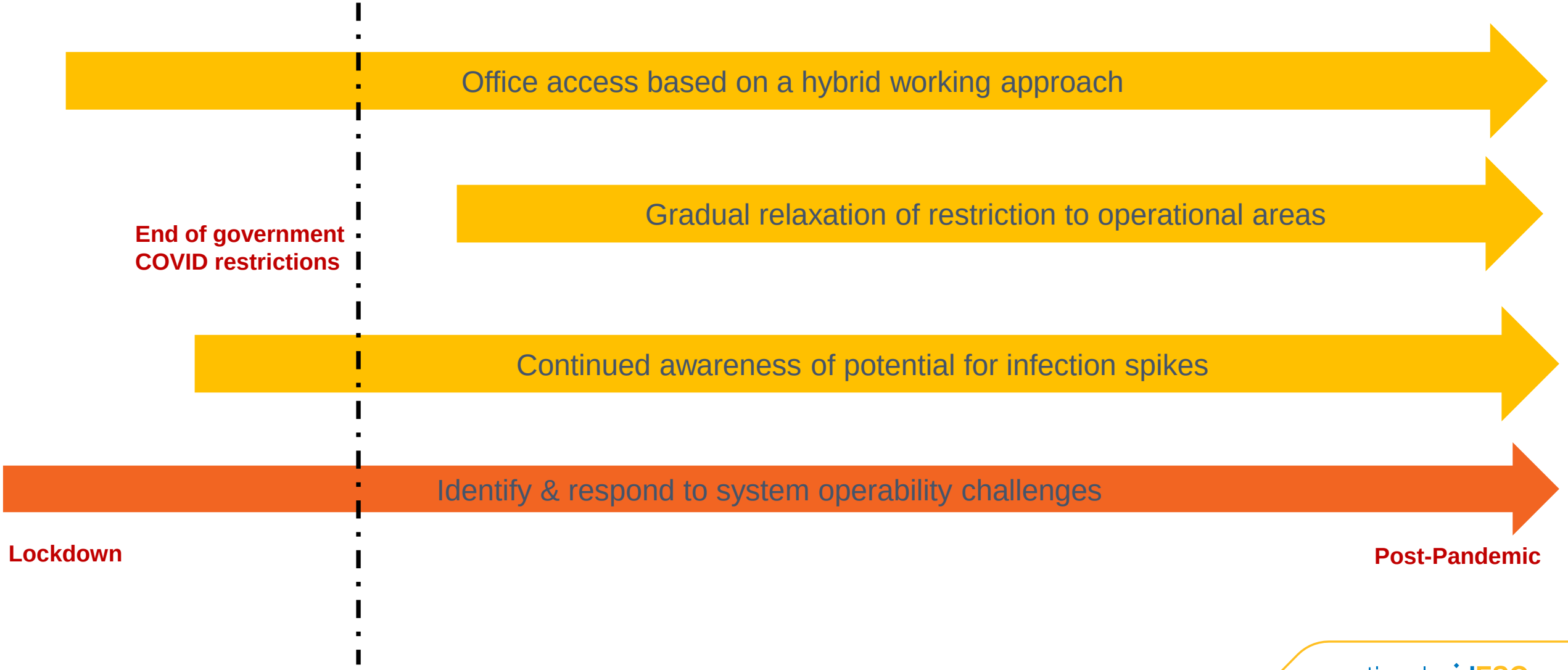
Regular Topics

Questions from last week
Business continuity
Demand review
Costs for last week
Constraints

Focus Areas

MZT & MNZT clarification
Energy Trading Transparency Update

Protecting critical staff to maintain critical operations



Future forum topics

While we want to remain flexible to provide insight on operational challenges when they happen, we appreciate you want to know when we will cover topics.

We have the following deep dives planned:

- Managing constraints in real-time – voltage, inertia, RoCoF

Questions outstanding from previous weeks

Q: The Feb 22 BSUoS published rate of £8.24/MWh includes a total demand of c.44.7TWh, however when I download the daily Feb 22 demand data is c.41.5TWh - can you please explain the demand variance? Thanks

A: Apologies. This was an error in the outturn data and this has been updated. The only data changed is the volume for Feb 22 but this has changed the Feb 22 BSUoS charge. https://data.nationalgrideso.com/balancing/monthly-balancing-services-use-of-system-bsuos-forecast-reports

Q: I assume minimum rocof (largest secured loss) is still used for inertia constraints. When will this be replaced with the nadir (minimum frequency) approach discussed before?

A: Since implementation the FRCR 2021 and with the progress in the ALoMCP and growth of Dynamic Containment, we seldom manage the loss risks on the system to manage RoCoF. We may only do this if we do not procure enough response to manage the largest losses (which may include consequential RoCoF losses). Current policy is to let consequential RoCoF events happen if the total loss can be secured to within 49.2Hz and 50.5Hz.

Q: Can you please explain why you can't give your interpretation on the MNZT point (can MNZT differ BOA vs PN), it is clear the industry is split and unclear on this point.

Q: Does the ESO understand the interpretation of dynamic data mean these data are now fixed (too risky compliance issue to change)? Fundamentals however do change which mean plant will not respond to changing demand/wind profiles. Is there an understanding this is likely to increase balancing costs?

Q: Those asking about dynamic parameters may want to look at the Issue 98 documents on the Elexon web-site. There are slides from NGESO on these

A: Please see slide 17 for clarification

Questions outstanding from previous weeks

Q: Clarity on BMU data: This is the data. A lot of wind units outturn data doesn't get published: Actual Generation Output Per Generation Unit (B1610) https://www.bmreports.com/bmrs/?q=actgenration/actualgeneration Referring to: There are a lot of wind BMUs that don't submit outturn meter data. Why is that? And can we get this data published please?

A: There are two aspects to consider here. Firstly about a third of the wind farms in Great Britain are small enough to mean that they do not have obligation to provide data to the National Grid ESO. These wind farms also do not need to participate in the short term Balancing Mechanism or register as BMUs. For this reason data for these smaller wind farms is not available on the BM reports website.

Secondly it has come to light that some of the data from a few newly connected BMU wind farms has not been getting through to the actual generation page. This was because of a database error that has now been corrected. The data for many more BMU wind farms should now be available.

If you are aware of any BMU registered wind farms that should be available on the actual generation page then please contact the energy forecasting team directly and we will investigate why the data is not getting through as it should.

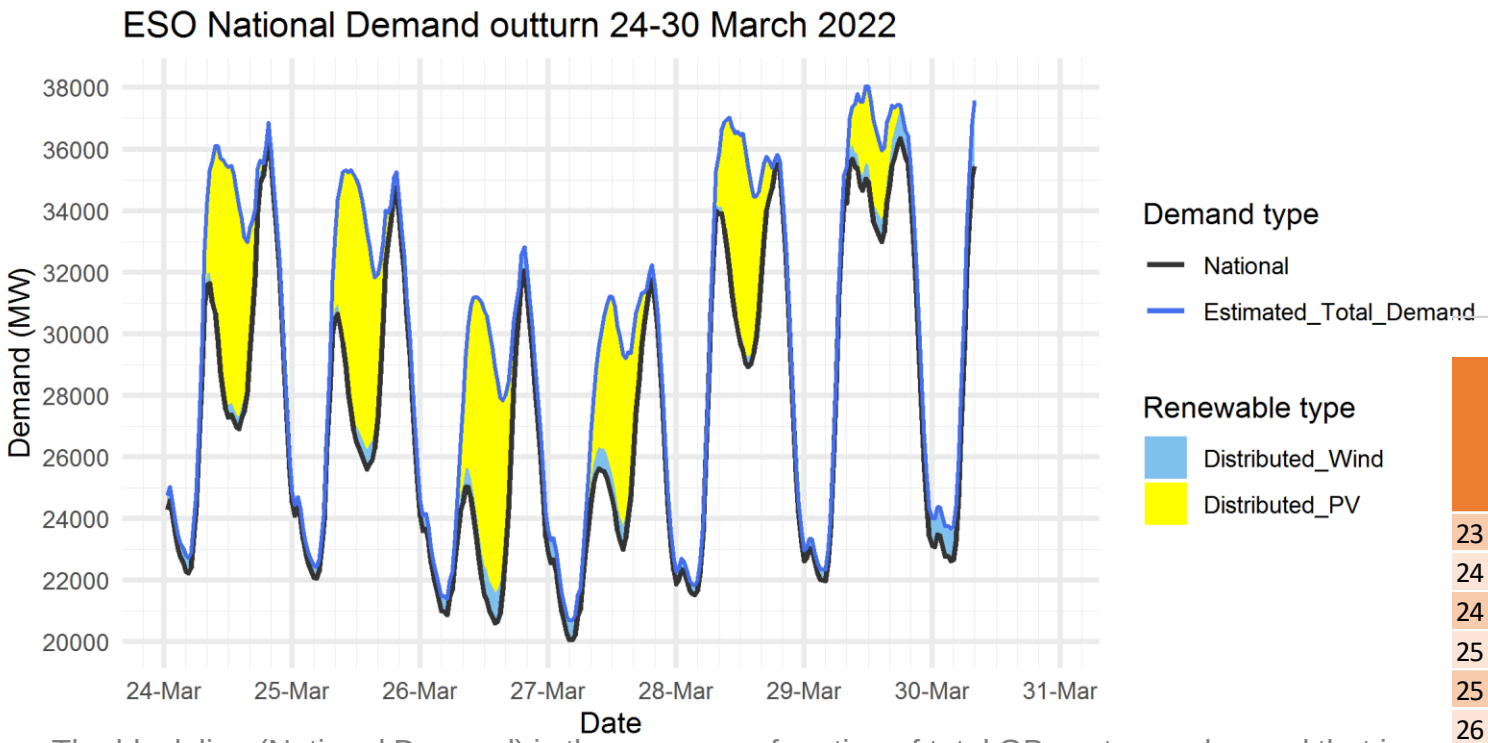
demand.forecasting@nationalgrid.com

Questions outstanding from previous weeks

Outstanding questions we are still working on

Q: So it sounds like the LCM will result in costs to bid back generation but you still haven't addressed why you don't bid pumped storage to pump, often at lower cost than e.g. bidding back wind?

Demand | Last week demand out-turn



		FORECAST (Wed 23 Mar)		OUTTURN	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Dist. wind (GW)
23 Mar 2022	Evening Peak	37.2	0.5	37.1	0.4
24 Mar 2022	Overnight Min	22.8	0.4	22.2	0.5
24 Mar 2022	Evening Peak	37.3	0.4	36.5	0.3
25 Mar 2022	Overnight Min	22.7	0.3	22.1	0.4
25 Mar 2022	Evening Peak	35.6	0.4	34.7	0.5
26 Mar 2022	Overnight Min	19.9	0.3	20.9	0.5
26 Mar 2022	Evening Peak	31.7	0.5	32.1	0.8
27 Mar 2022	Overnight Min	21.6	0.5	20.0	0.6
27 Mar 2022	Evening Peak	34.5	0.5	30.9	0.5
28 Mar 2022	Overnight Min	23.1	0.4	21.5	0.3
28 Mar 2022	Evening Peak	37.6	0.7	35.3	0.3
29 Mar 2022	Overnight Min	24.1	0.7	22.0	0.4

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

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

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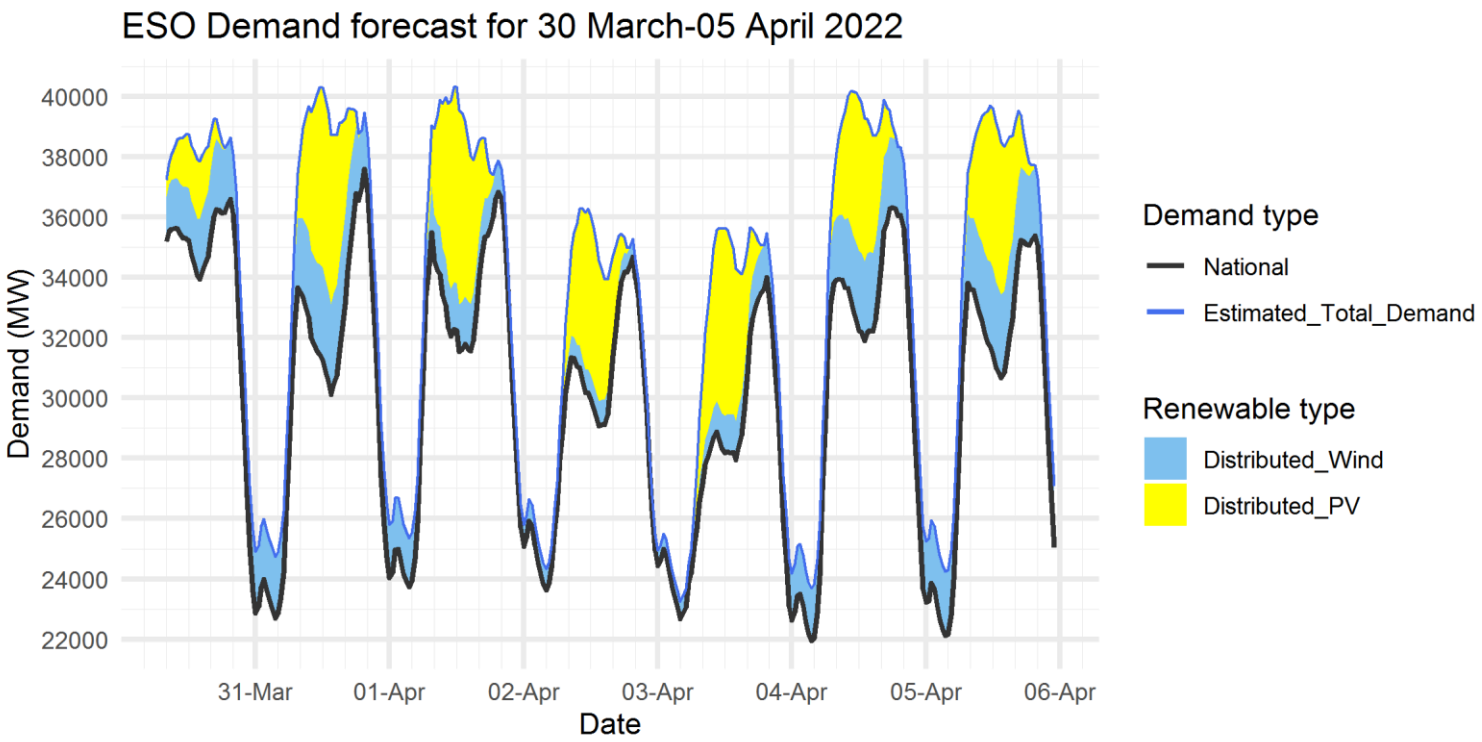
Demand | Week Ahead



		FORECAST (Wed 30 Mar)	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)
30 Mar 2022	Evening Peak	36.3	2.3
31 Mar 2022	Overnight Min	22.7	2.0
31 Mar 2022	Evening Peak	36.8	2.2
01 Apr 2022	Overnight Min	23.7	1.6
01 Apr 2022	Evening Peak	36.0	1.1
02 Apr 2022	Overnight Min	23.6	0.7
02 Apr 2022	Evening Peak	34.2	0.7
03 Apr 2022	Overnight Min	22.7	0.6
03 Apr 2022	Evening Peak	33.5	1.4
04 Apr 2022	Overnight Min	21.9	1.7
04 Apr 2022	Evening Peak	36.3	2.3
05 Apr 2022	Overnight Min	22.1	2.1
05 Apr 2022	Evening Peak	35.2	2.4

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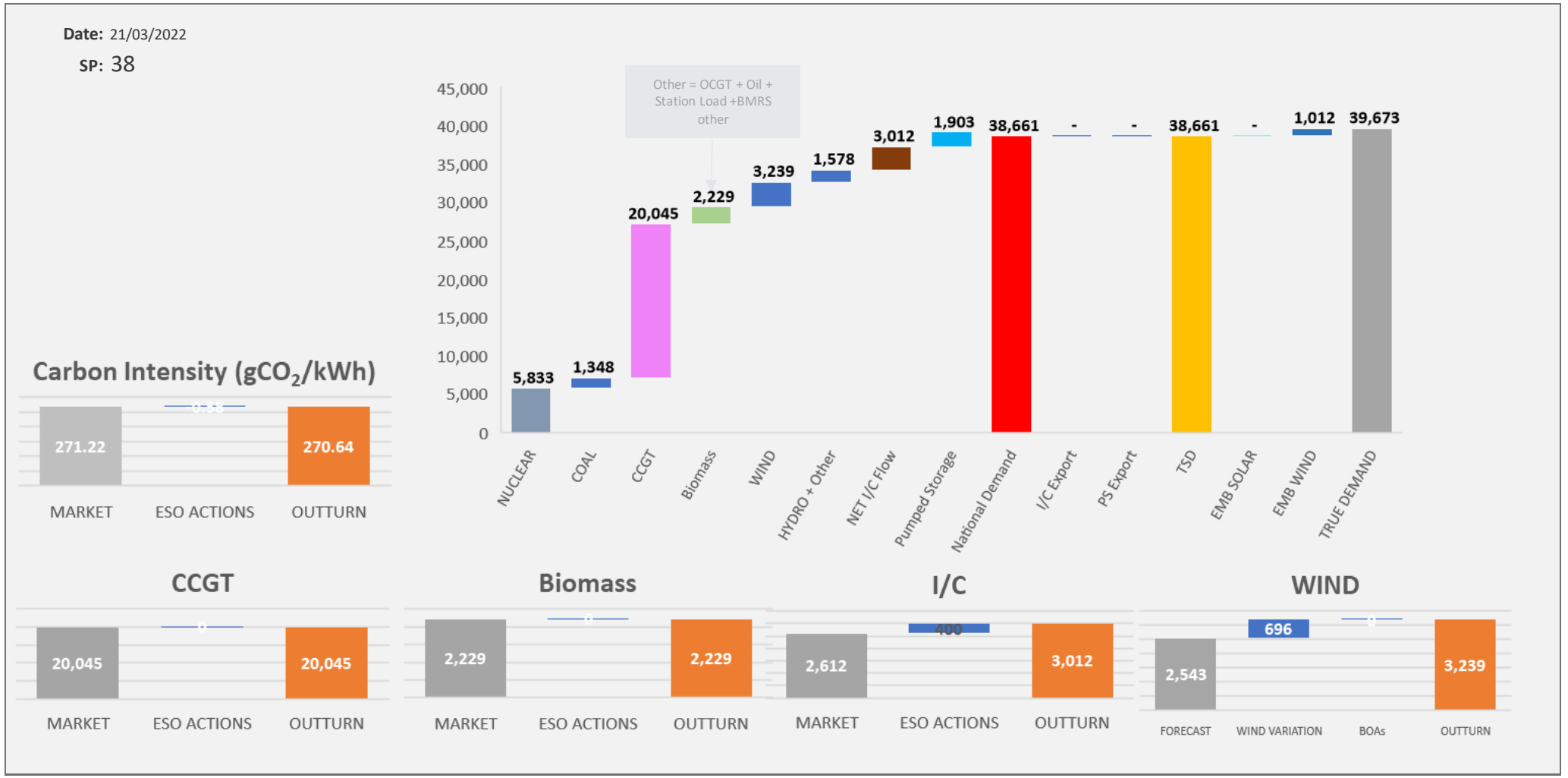
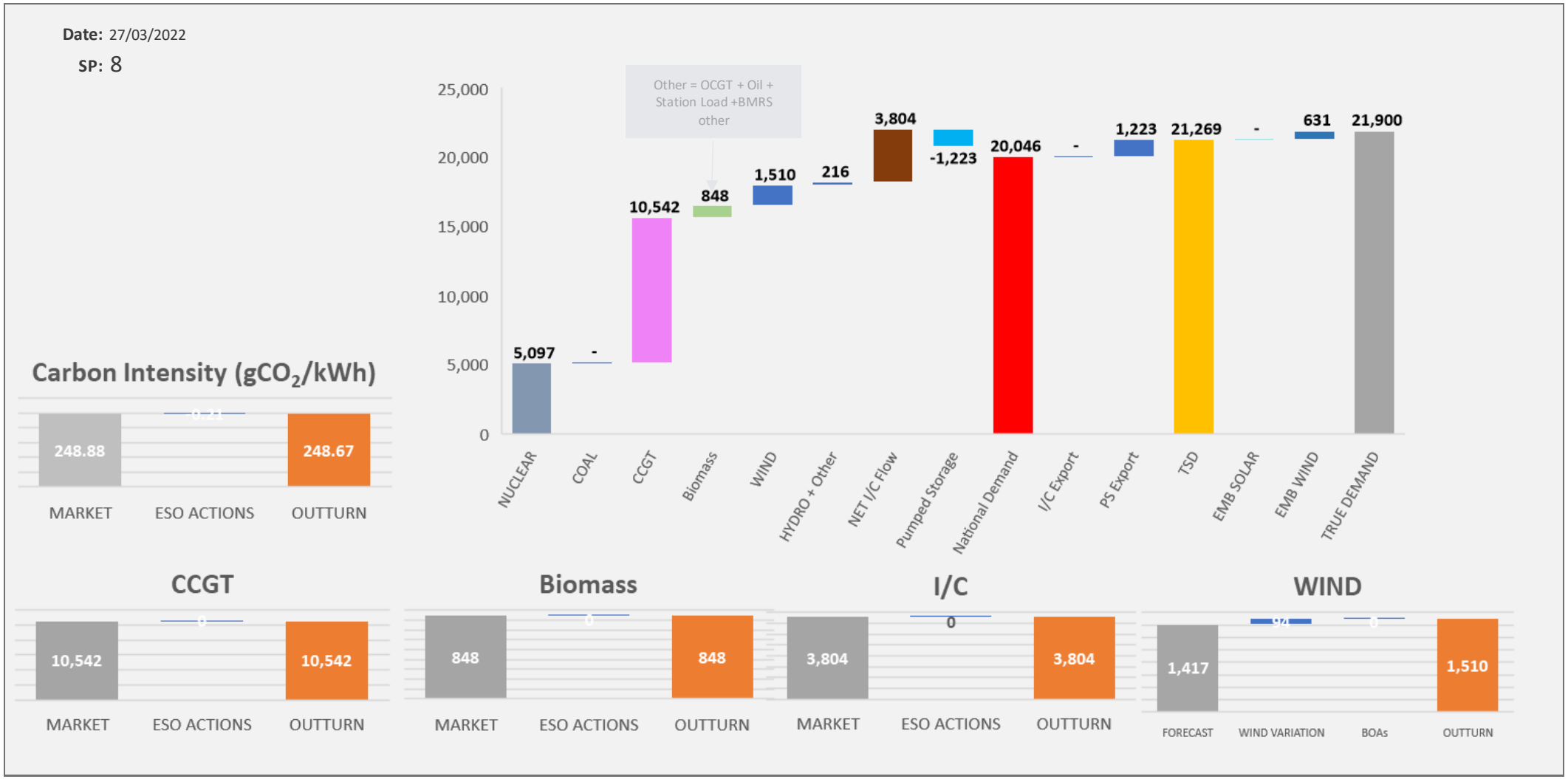
Forecast of the embedded solar & wind generation for the next 14 days can be found on the ESO Data Portal in the following data set: Embedded Solar and Wind Forecast

ESO Actions | Monday 21 March Peak



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

ESO Actions | Sunday 27 March Minimum

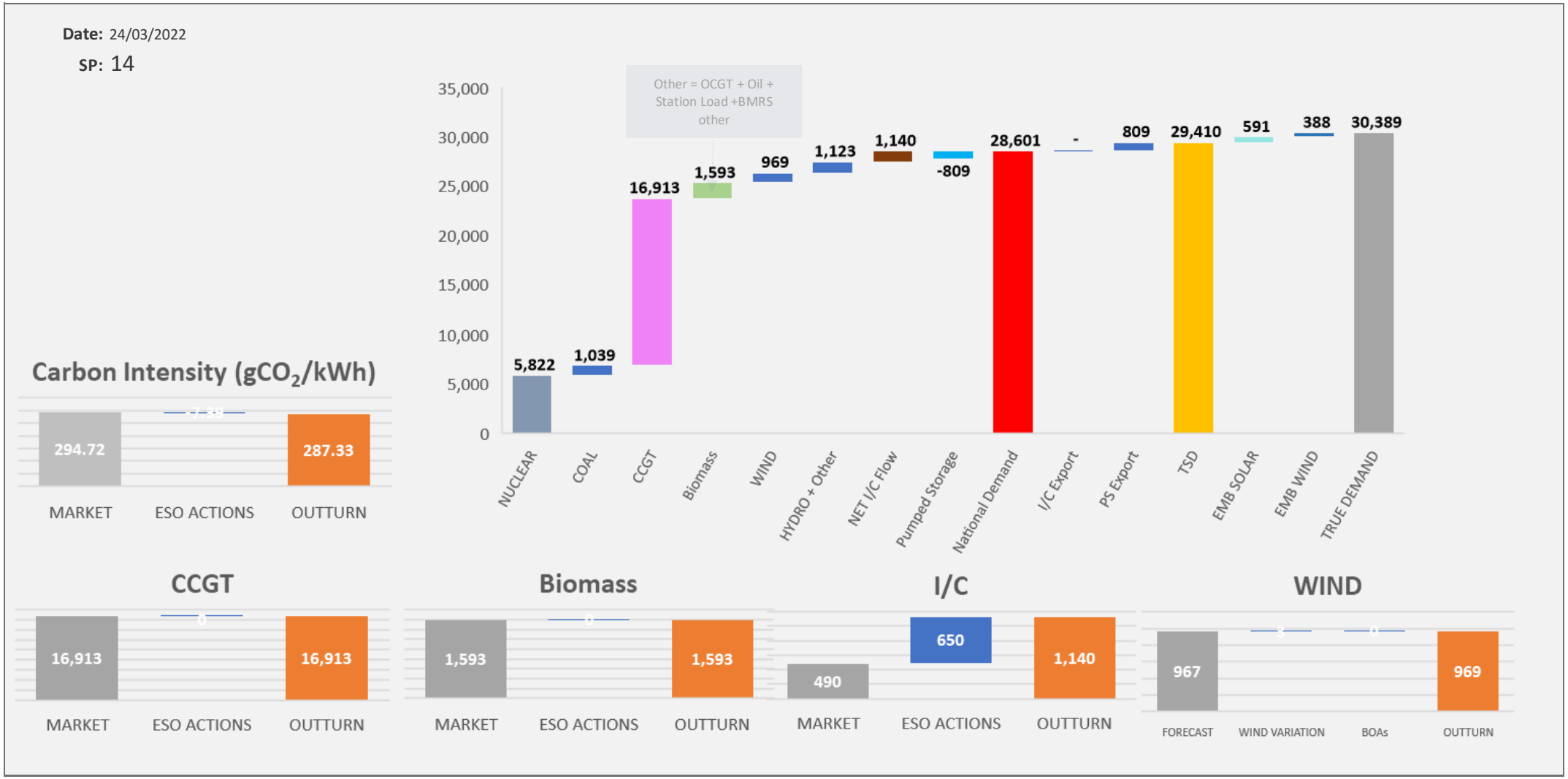


Carbon Intensity data on data portal: https://data.nationalgrideso.com/carbon-intensity1/carbon-intensity-of-balancing-actions

ESO Actions | Thursday 24 March Highest Spend ~£0.2m

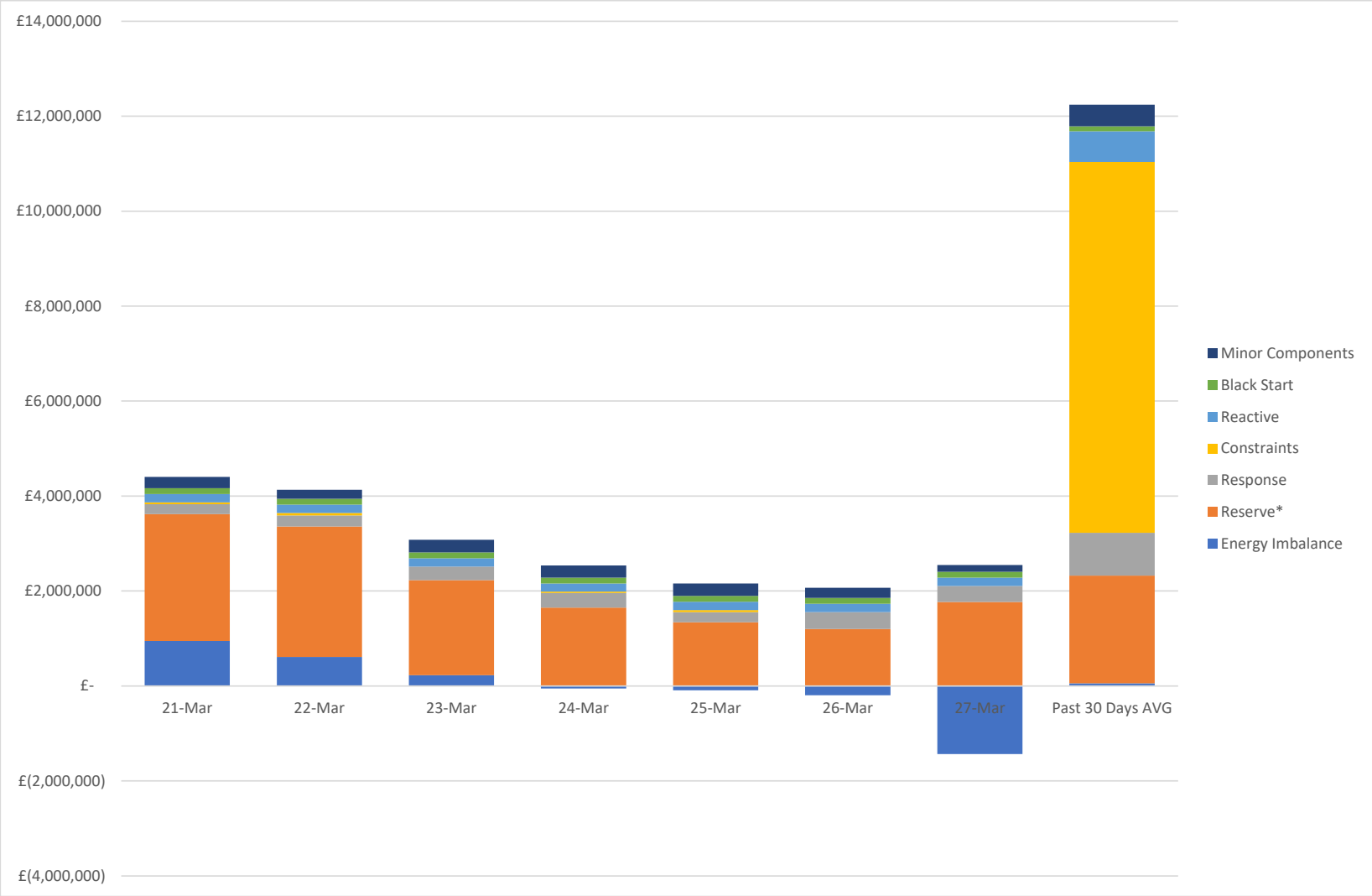
Date: 24/03/2022

SP: 14



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

Transparency | Category costs breakdown for the last week

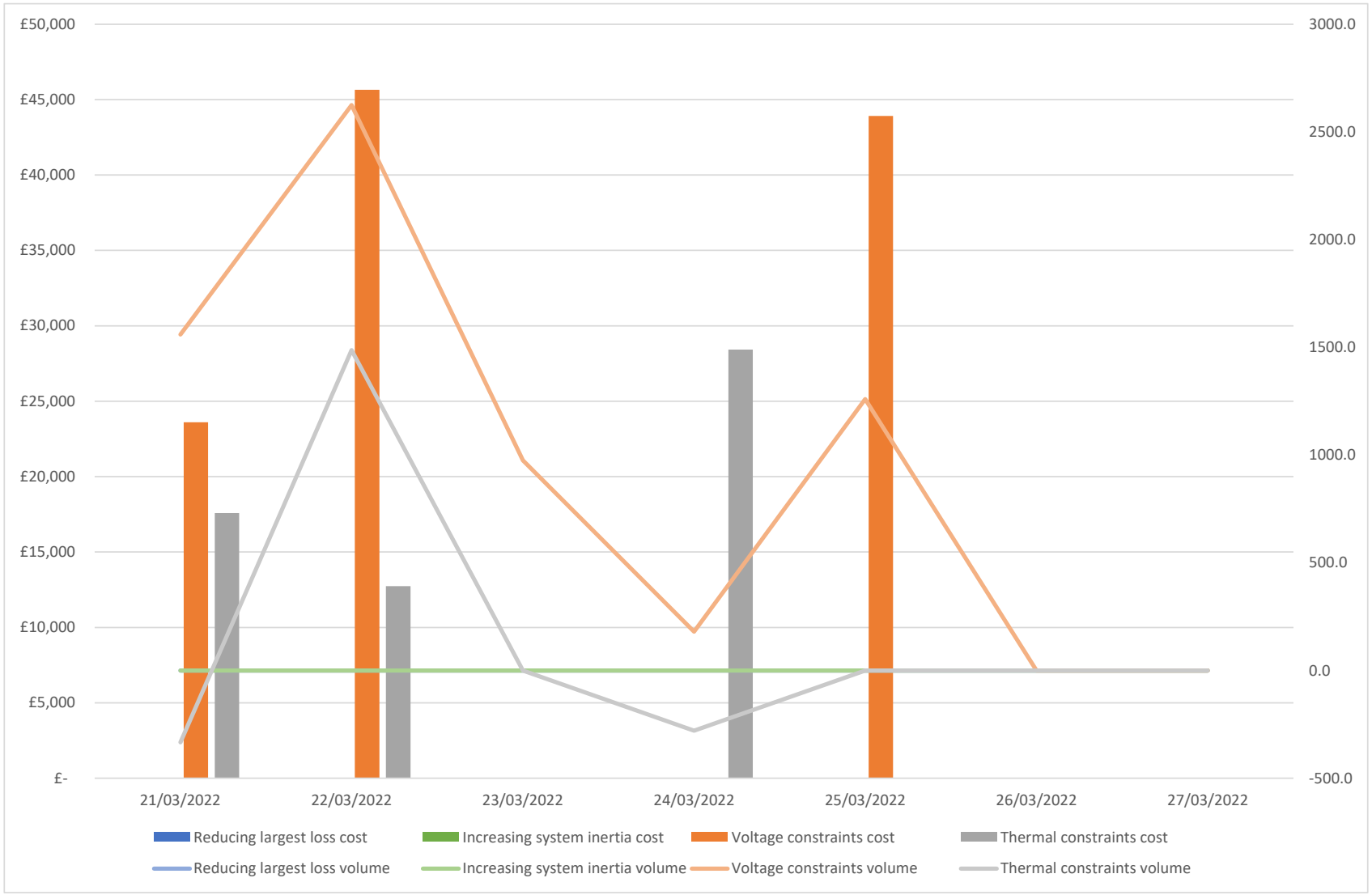


Day	£m
21/03/2022	4.4
22/03/2022	4.1
23/03/2022	3.1
24/03/2022	2.5
25/03/2022	2.1
26/03/2022	1.9
27/03/2022	1.1

The main component of the daily spend on most days were costs associated to Reserve, as little action was required for constraints throughout the week.

Past 30 Days Average is displayed in the chart

Transparency | Constraint Cost Breakdown



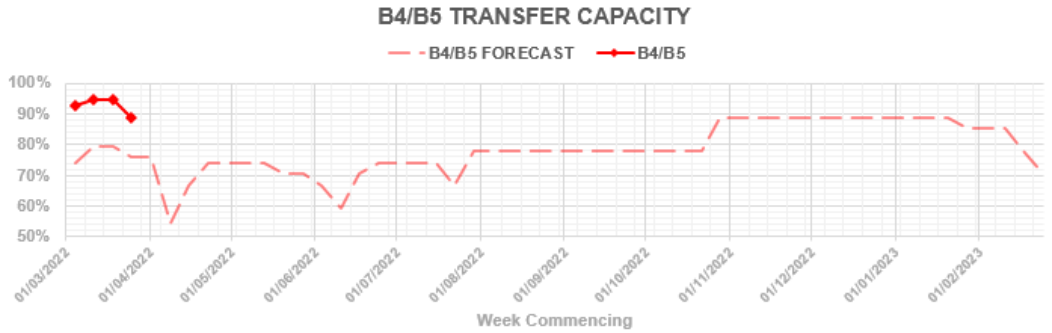
Thermal – network congestion
Actions were required to manage Thermal Constraints Monday, Tuesday and Thursday.

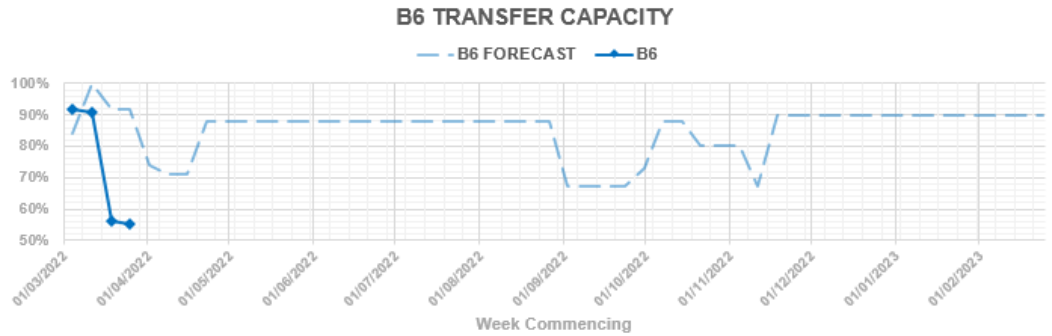
Voltage
Actions taken to synchronise generation to meet voltage requirements were required Monday, Tuesday and Friday.

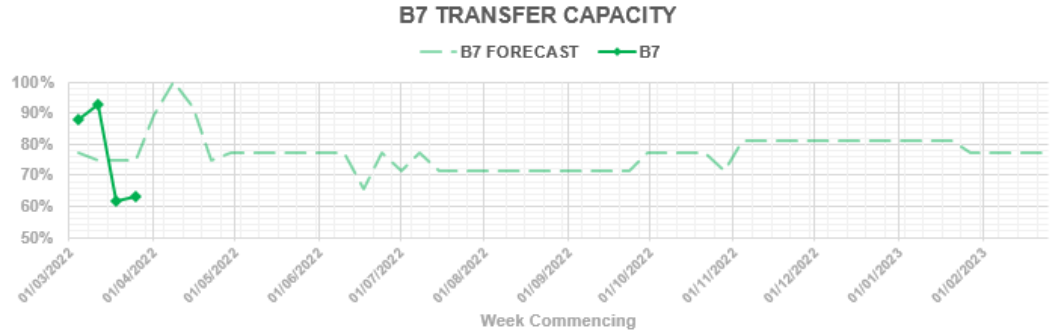
Managing largest loss for RoCoF
No intervention required to manage largest loss on interconnectors

Increasing inertia
No intervention required to increase minimum inertia

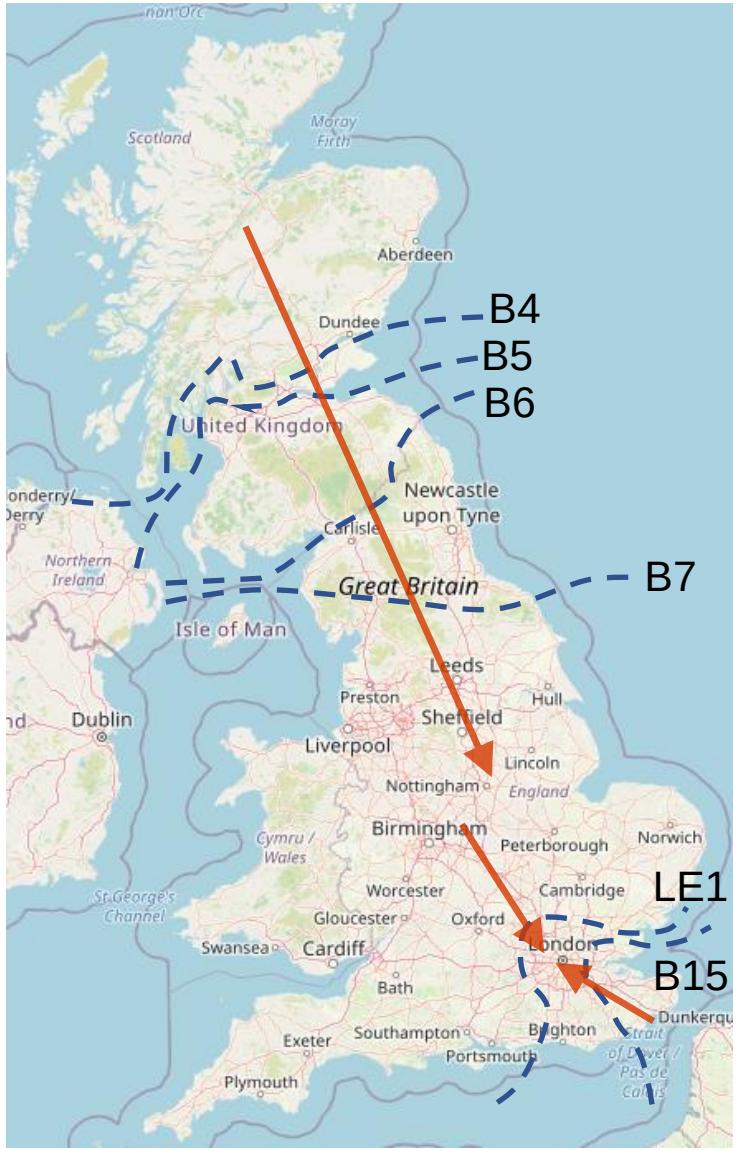
Transparency | Network Congestion





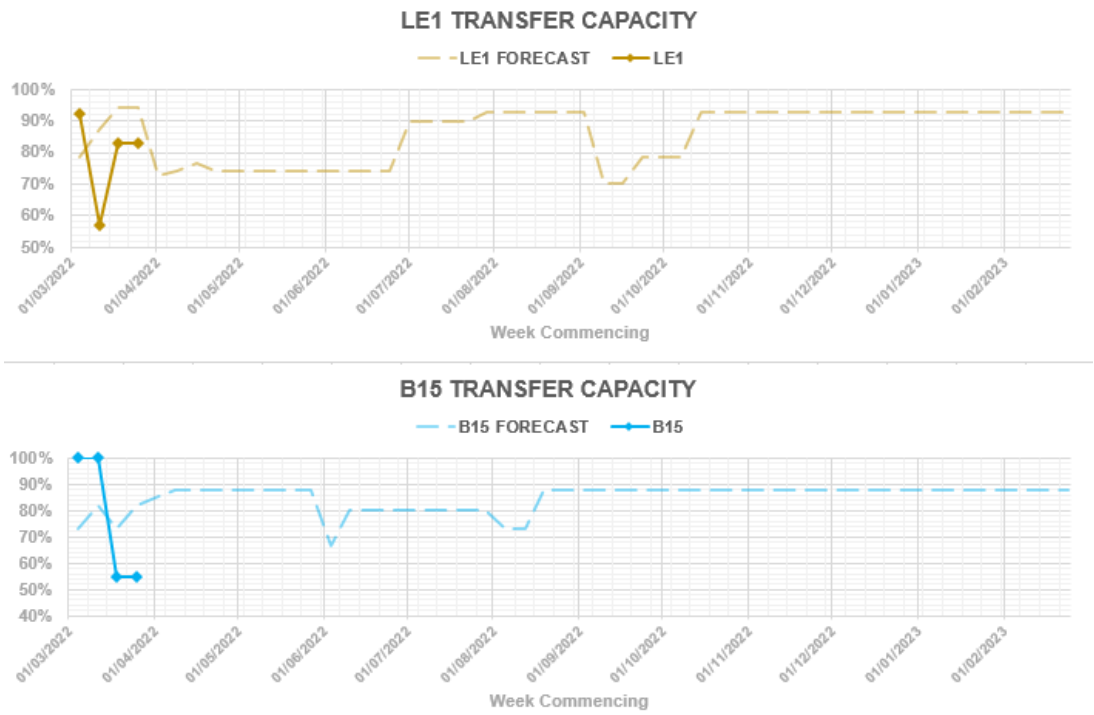


Boundary	Max. Capacity (MW)
B4/B5	2700
B6	5300
B7	8400
LE1	7000
B15	10000



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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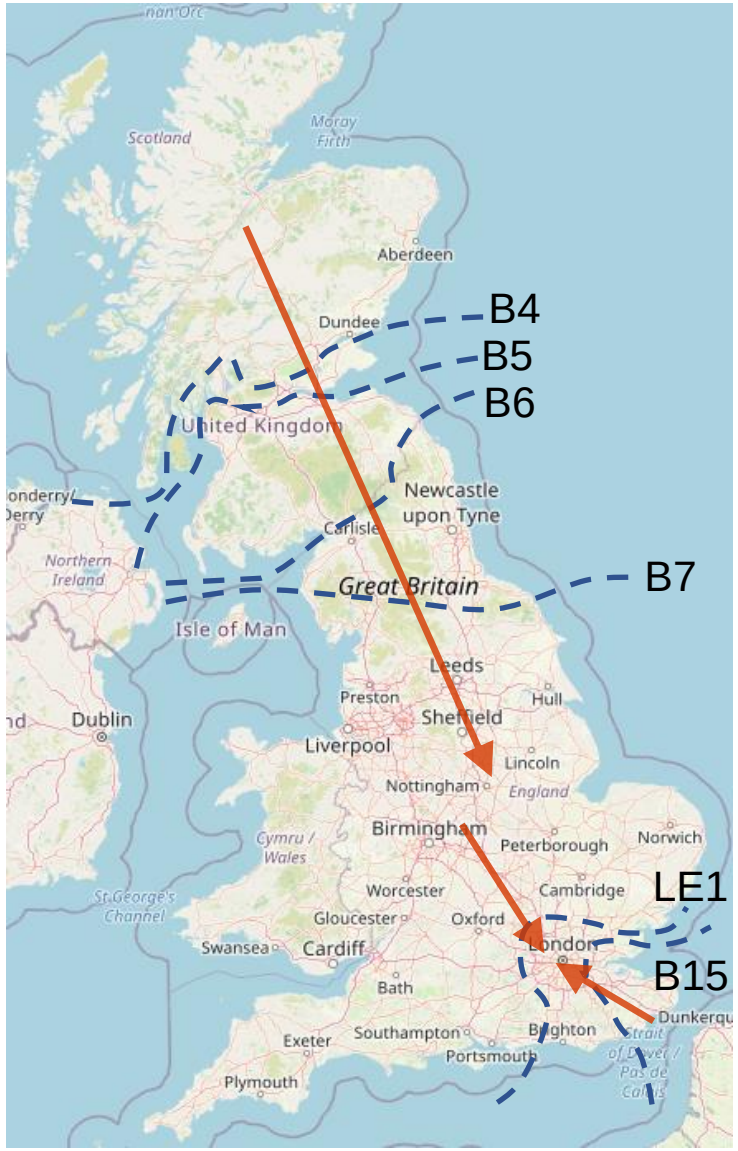

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Minimum Zero Times & Minimum Non-Zero Times

Ofgem's open letter on dynamic parameters states:
"It is essential that market participants comply with their obligations under the Grid Code and REMIT when submitting their dynamic parameters to the ESO. This means that these parameters must be set at a level that reflects the true operating characteristics of their plant, or their reasonable expectations, based on technical parameters, of those operating characteristics. Generators must not use dynamic parameters as a commercial tool in order to influence the payments that are received from the ESO."

Grid Code
Both PNs and the dynamic parameters should be prepared in accordance with good industry practice and the dynamic parameters can be updated at any time, while PNs can be changed up to gate closure. So if the same good industry practice is applied to both then they should be aligned and consistent under most circumstances.

BSC Issue group 98 is reviewing the suitability of these market rules. However, this represents proposed changes not current market rules.

Therefore there is an expectation that PNs should normally be aligned with dynamic parameters and that dynamic parameters should be technically derived and not used as a commercial tool.

We **will not** comment on any specific units. Please do not use this forum to share specific issues you have observed across BMUs. If you believe a PN is inconsistent with market rules share this with MarketReporting@nationalgrideso.com who will review the incident using the all datasets that ESO have access to.

Energy Trading – transparency update

Feedback following our trading survey conducted last year.

The majority of feedback was in relation to improving processes for interconnector trading, data quality and publication of NTCs. Some feedback that was not trading related and this has been fed back to the relevant teams within NGESO.

Interconnector trading – feedback on the specifics of trading process, how files are transferred, how the requirements and results are made available.

We are looking to improve the way we run our trading auctions, how we communicate with counterparties and to introduce greater automation. There will be more communication with our interconnector counterparties in the coming weeks.

NTC transparency – “Publication of the curtailment on the interconnectors ahead of the day ahead auction is very important to the wider market as it affects the result.”

Day ahead NTCs are only used on NSL. ITLs are used, if needed, on other interconnectors. We are investigating how and where we could make this information available. It will only extend to restrictions by NGESO.

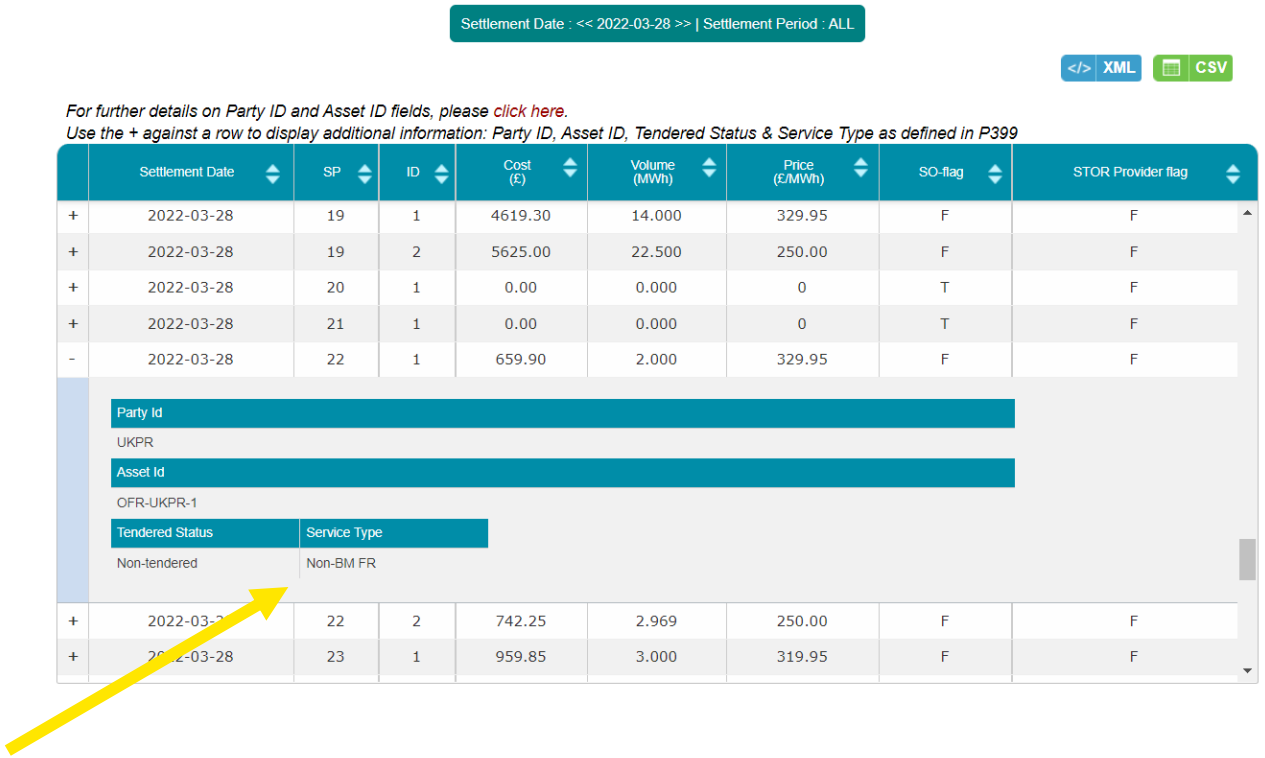
Energy Trading – transparency update

Data quality – feedback that data was sometimes missing/late. We have put some additional checks in our processes, particularly for interconnector data. We are not aware of any ongoing issues. Please, if you believe something is missing or doesn't look right, inform the trading team or the data portal team and we can get it fixed quickly.

DISBSAD– "7a trades and any other trades that feed into BSAD, but published prior to gate closure and not after delivery. There are times that 300MW+ appears after the period has delivered, but in some cases this volume must relate to trades, which must have been carried out prior to the period delivering."

"Timely publication of BSAD data - there is constant flow of BSAD data coming in after the event or during the delivery period. This is not very transparent and doesn't help the market participants make the correct trading/balancing decision based on all available information."

This information is in relation to NBM Fast Reserve that is activated post gate closure. Not Sch 7a trades. You can see this on BMRS.



Energy Trading – transparency update

Trading information – can be found here

ESO Data Portal: Trading | National Grid Electricity System Operator (nationalgrideso.com)

Upcoming trades – can be found here

https://data.nationalgrideso.com/trade-data/upcoming-trades/r/upcoming_trades

Historic trades – can be found here

https://data.nationalgrideso.com/trade-data/historic-gtma-grid-trade-master-agreement-trades-data/r/historic_gtma_trades_fy_21-22

Interconnector trading information – can be found here

ESO Data Portal: Interconnector Requirement and Auction Summary Data - Dataset| National Grid Electricity System Operator (nationalgrideso.com)

For enquiries about trading, trading data or becoming a registered interconnector trading partner email:

trading@nationalgrideso.com

DISBSAD data – can be found here

DISBSAD | BMRS (bmreports.com)

Dynamic Containment 4 Day Forecast

First DC forecast (both DC-L and DC-H) to be published this week

Dataset will go live on the Data Portal tomorrow at the following URL: https://data.nationalgrideso.com/ancillary-services/dynamic-containment-4-day-forecast (not live yet)

The first forecast will be published before 8AM on Friday morning

The dataset will contain a 4 day ahead forecast for both DC-L and DC-H and will be refreshed daily (7 days a week)

Any questions please contact box.AncillaryAssessment@nationalgrideso.com

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Audience Q&A Session

ⓘ Start presenting to display the audience questions on this slide.

Q&A

Please remember to use the feedback poll after the event. We welcome feedback to understand what we are doing well and how we can improve the event ongoing.

If you have any questions after the event, please contact the following email address: box.NC.Customer@nationalgrideso.com

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