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

ESO Operational Transparency Forum

13 July 2022

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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
Demand review
Costs for last week
Constraints

Focus Areas

Capacity Market Notification (CMN) issue update

Contingency Contracts

Things we hope to answer in the coming weeks

Costs

- When will you be able to provide a forecast of costs?
- How much will the contracts cost?
- How will the contracts work in relation to cash-out?

Dispatch

- Will market be made aware of ESO chooses to warm the plant ahead of dispatch?
- How will it be dispatched?
- What does ‘not in the market’ mean?
- When will they be dispatched in relation to the Capacity Market?

Other

- What data will the unit be submitting and how will this data be made public?
- How are you considering the units in other analysis?

We will be unable to answer further questions on this at today’s forum.

Future deep dive/ response topics

Upcoming soon:
Demand control test deep dive – 3rd August

Items we have taken offline and will come back to this forum on in the future
REMIT obligations on ESO

Items that we have planned for a deep dive
Reserve scarcity trial results
Early view of Winter Operability
Inertia monitoring

Items that we have identified for regular slot consideration
How we are performing under RIIO-2 report (monthly)
Please note the RIIO-2 report for May was published on 27 June at the link above.

Feedback welcomed on our identified topics for inclusion

System Events

11th July:

At 15:49 a unit tripped from an output of 627MW. The system frequency fell from 49.895 to 49.682 Hz. System frequency was restored within operational limits by 15:53.

Questions outstanding from previous weeks

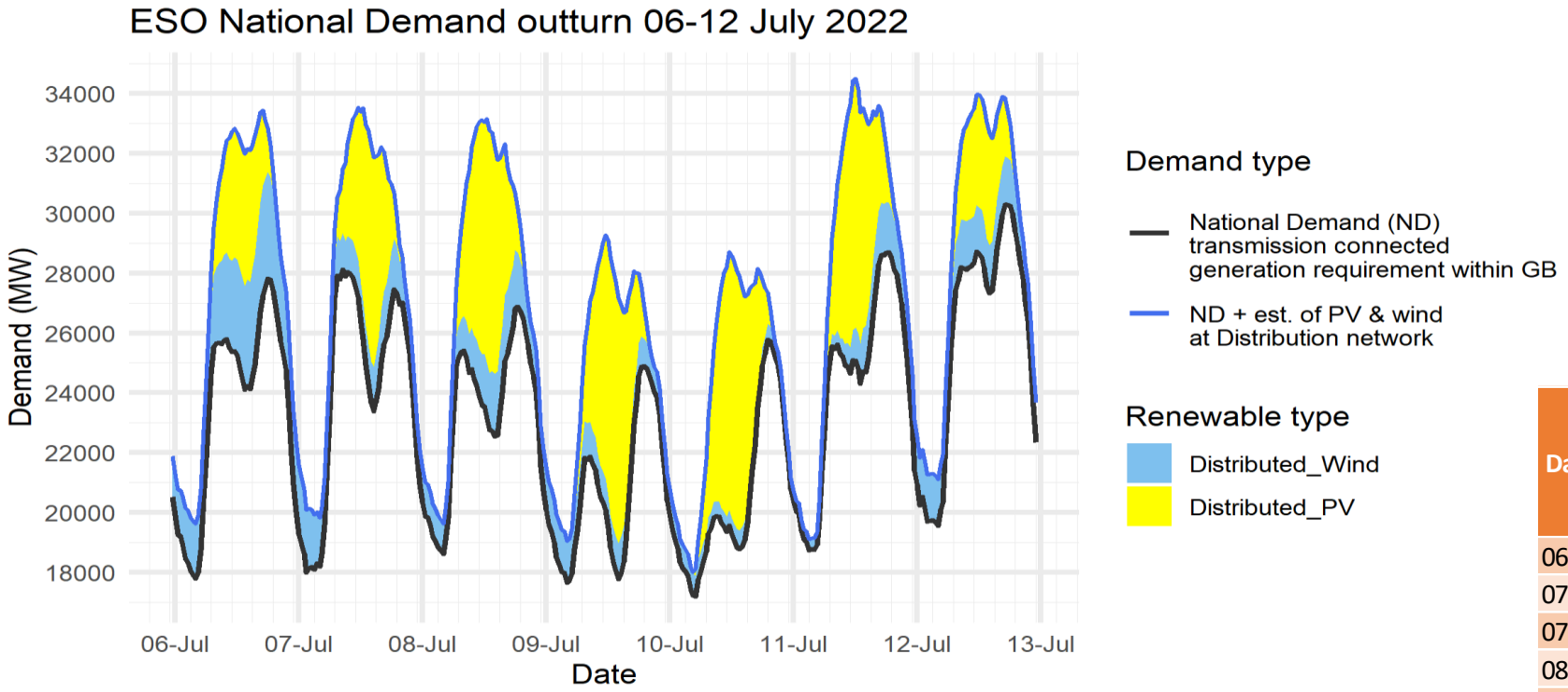
Q: In the latest Reserve Reform Show & Listen event you mention using a 'Static Recovery' service alongside the new response and reserve services. Is this service just a rebranded name for Static Firm Frequency Response (FFR) or a brand new service?

A: We are in the early stages of exploring options for a new frequency service to complement DC, DM, DR, Slow and Quick Reserve. The service may have similarities with static FFR (secondary-only static) and we will share modelling outcomes and a proposal of the service via frequency response and reserve reform engagement activities. Our priorities this quarter are developing Slow and Quick Reserve, and preparing for the response reform consultation, which we expect to launch at the end of September.

Q: Back in December you published a document looking at interconnector involvement in DC. Has there been any update on this work?

A: The Smart Systems Flexibility Plan references bringing interconnection into the Dynamic Containment market. Following a meeting with BEIS, ESO and Ofgem, it was agreed that the scope of this action would be widened, both in terms of “technology types” and the services offered. Therefore, we will be exploring barriers to entry in new ancillary services across all technology types.

Demand | Last week demand out-turn



		FORECAST (Wed 06 Jul)			OUTTURN		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
06 Jul	Afternoon Min	22.5	3.5	6.4	24.1	3.5	4.4
07 Jul	Overnight Min	17.8	2.2	0.0	18.0	2.1	0.0
07 Jul	Afternoon Min	23.3	1.6	6.7	23.4	1.5	7.0
08 Jul	Overnight Min	18.4	1.0	0.0	18.6	1.0	0.0
08 Jul	Afternoon Min	22.0	1.7	6.9	22.5	2.1	7.6
09 Jul	Overnight Min	16.7	1.6	0.3	17.7	1.4	0.0
09 Jul	Afternoon Min	17.6	1.6	7.3	17.8	1.2	8.2
10 Jul	Overnight Min	16.3	0.8	0.3	17.2	0.7	0.2
10 Jul	Afternoon Min	19.1	0.8	7.3	18.8	0.6	8.5
11 Jul	Overnight Min	18.2	0.4	0.0	18.8	0.3	0.0
11 Jul	Afternoon Min	23.5	0.7	8.1	24.3	1.3	7.7
12 Jul	Overnight Min	19.0	1.0	0.0	19.6	1.6	0.0
12 Jul	Afternoon Min	25.1	1.6	5.3	27.3	1.6	3.8

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

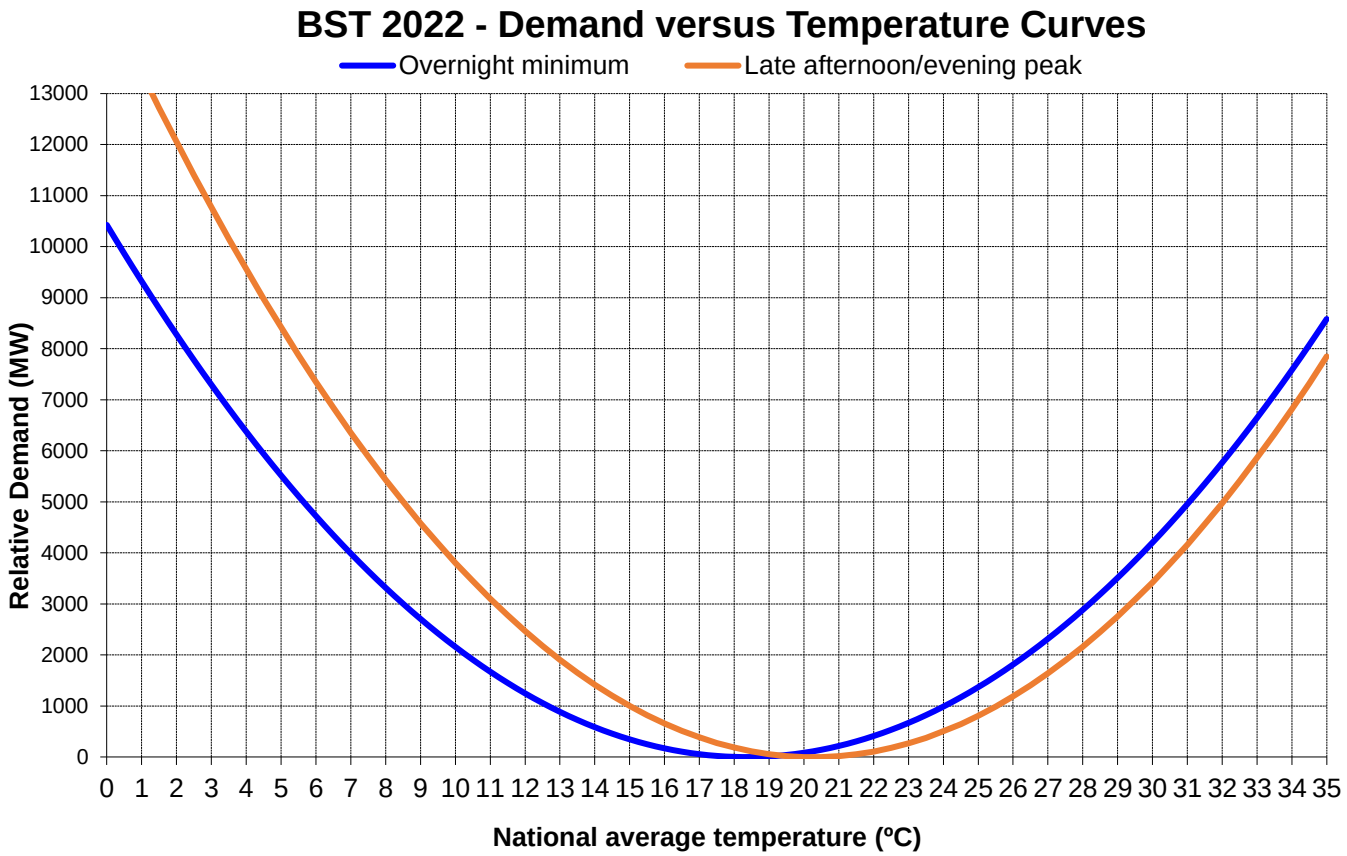
Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it does not include demand supplied by non-weather driven sources at the distributed network for which ESO has no real time data.

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

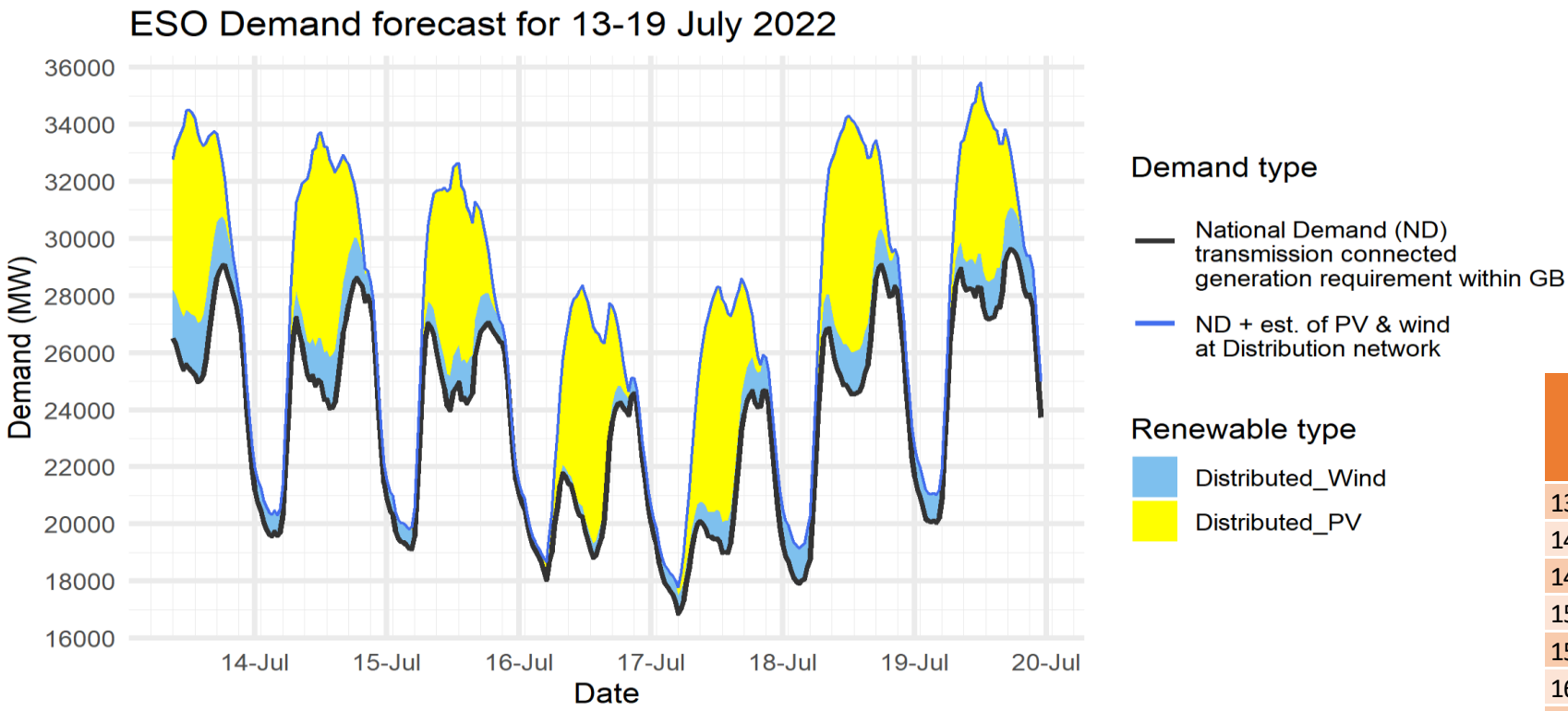
Demand | Temperature Response (indicative)

We are not able to precisely assign number of MWs into the cooling requirement. However we know that there is a certain temperature threshold above which the demand starts to increase. Of course it varies depending on the time of day.

for example: when the average national temperate at 06:00 a.m. is higher than 18C we start to see demand at this time of day increase. In case of the evening peak (highest demand between 17:00 and 20:00) then when the national average temperature goes above 21C we observe higher demand requirement.



Demand | Week Ahead



		FORECAST (Wed 13 Jul)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
13 Jul 2022	Afternoon Min	25.0	2.1	6.7
14 Jul 2022	Overnight Min	19.6	0.8	0.0
14 Jul 2022	Afternoon Min	24.1	1.8	6.9
15 Jul 2022	Overnight Min	19.1	0.7	0.1
15 Jul 2022	Afternoon Min	24.2	1.4	5.5
16 Jul 2022	Overnight Min	18.0	0.3	0.3
16 Jul 2022	Afternoon Min	18.8	0.5	7.6
17 Jul 2022	Overnight Min	16.9	0.7	0.3
17 Jul 2022	Afternoon Min	19.0	1.1	7.3
18 Jul 2022	Overnight Min	17.9	1.2	0.0
18 Jul 2022	Afternoon Min	24.5	1.5	8.1
19 Jul 2022	Overnight Min	20.1	1.0	0.0
19 Jul 2022	Afternoon Min	27.2	1.3	5.8

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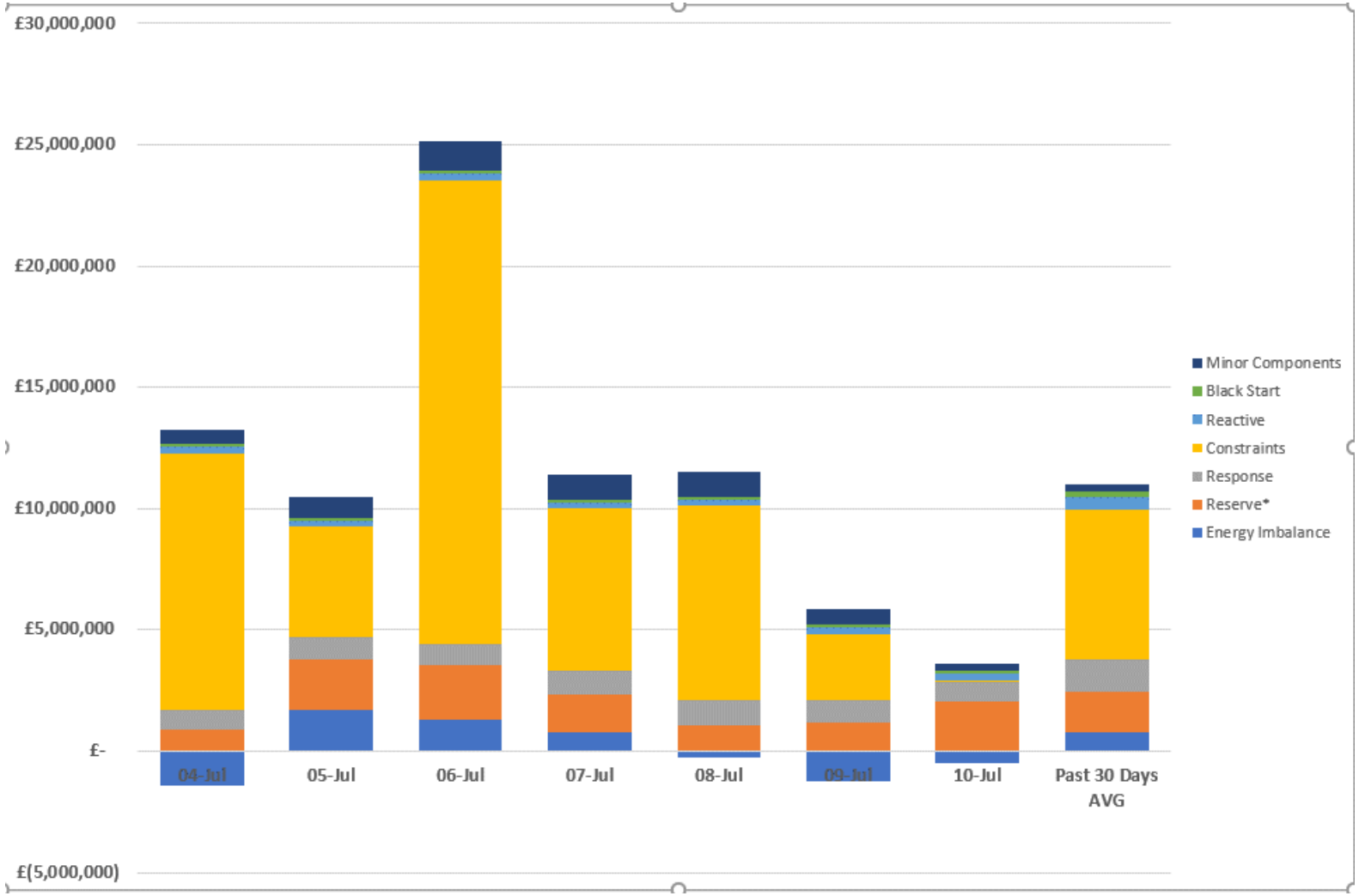
ESO Actions | Category costs breakdown for the last week



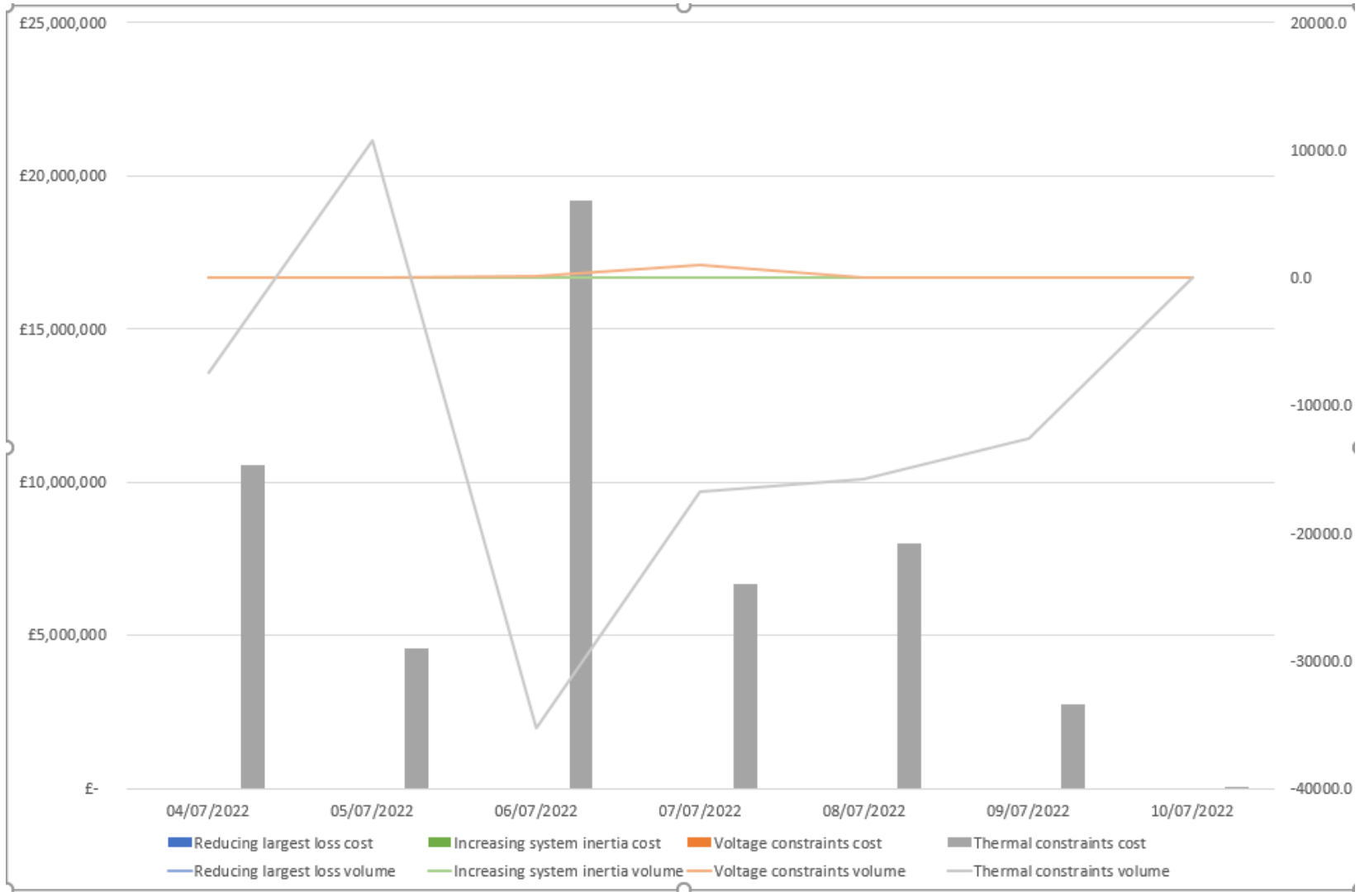
Date	Total (£m)
04/07/2022	11.8
05/07/2022	10.5
06/07/2022	25.1
07/07/2022	11.4
08/07/2022	11.3
09/07/2022	4.6
10/07/2022	3.1
Weekly Total	77.9

Constraint category was the key cost component throughout the week.

*Reserve includes Operating Reserve, STOR, Fast Reserve, Negative Reserve, Other Reserve

Past 30 Days Average is displayed in the chart

ESO Actions | Constraint Cost Breakdown



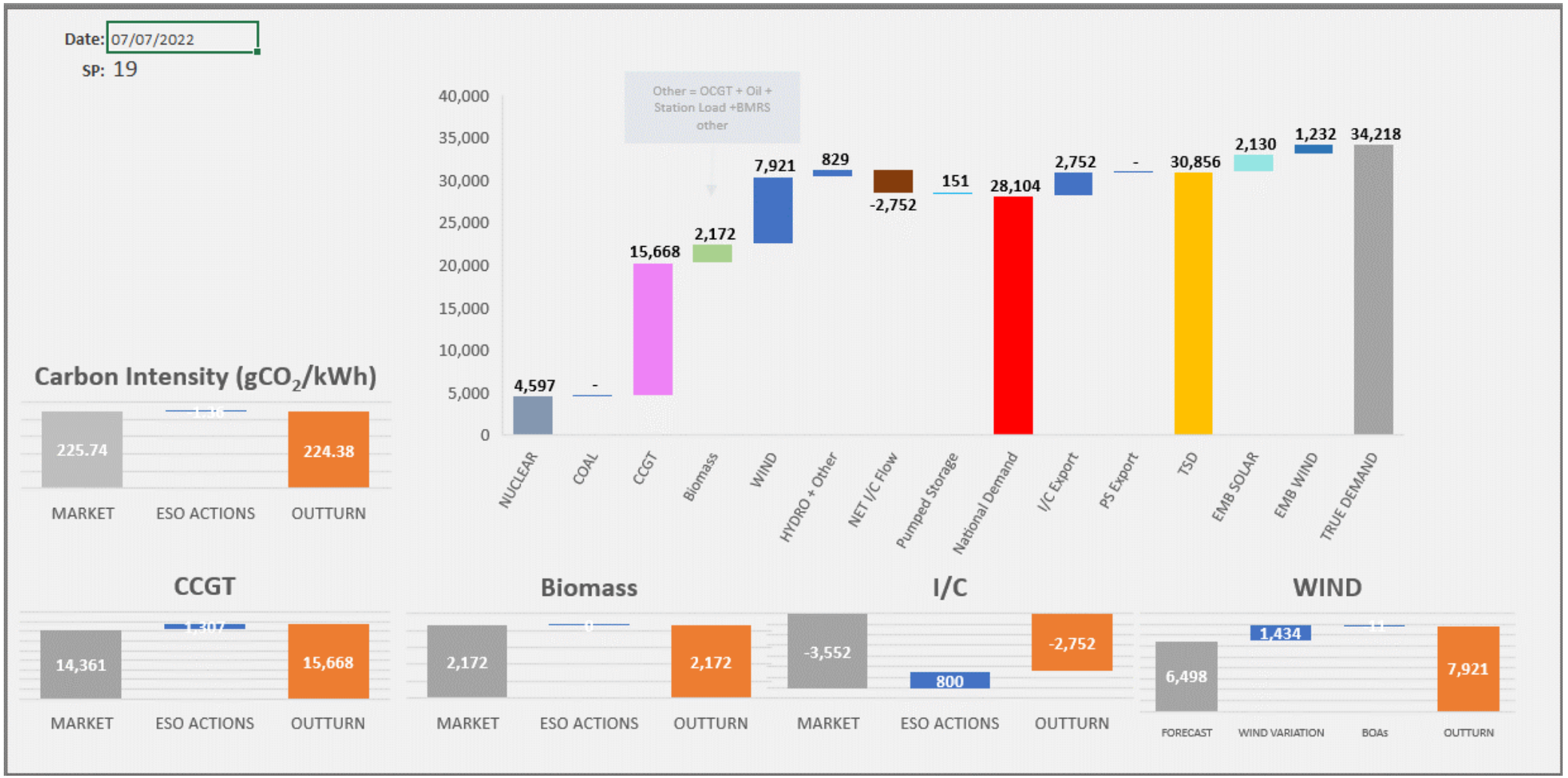
Thermal – network congestion
Actions required to manage Thermal Constraints throughout the week

Voltage
No extra Actions taken

Managing largest loss for RoCoF
No Intervention required to manage largest loss

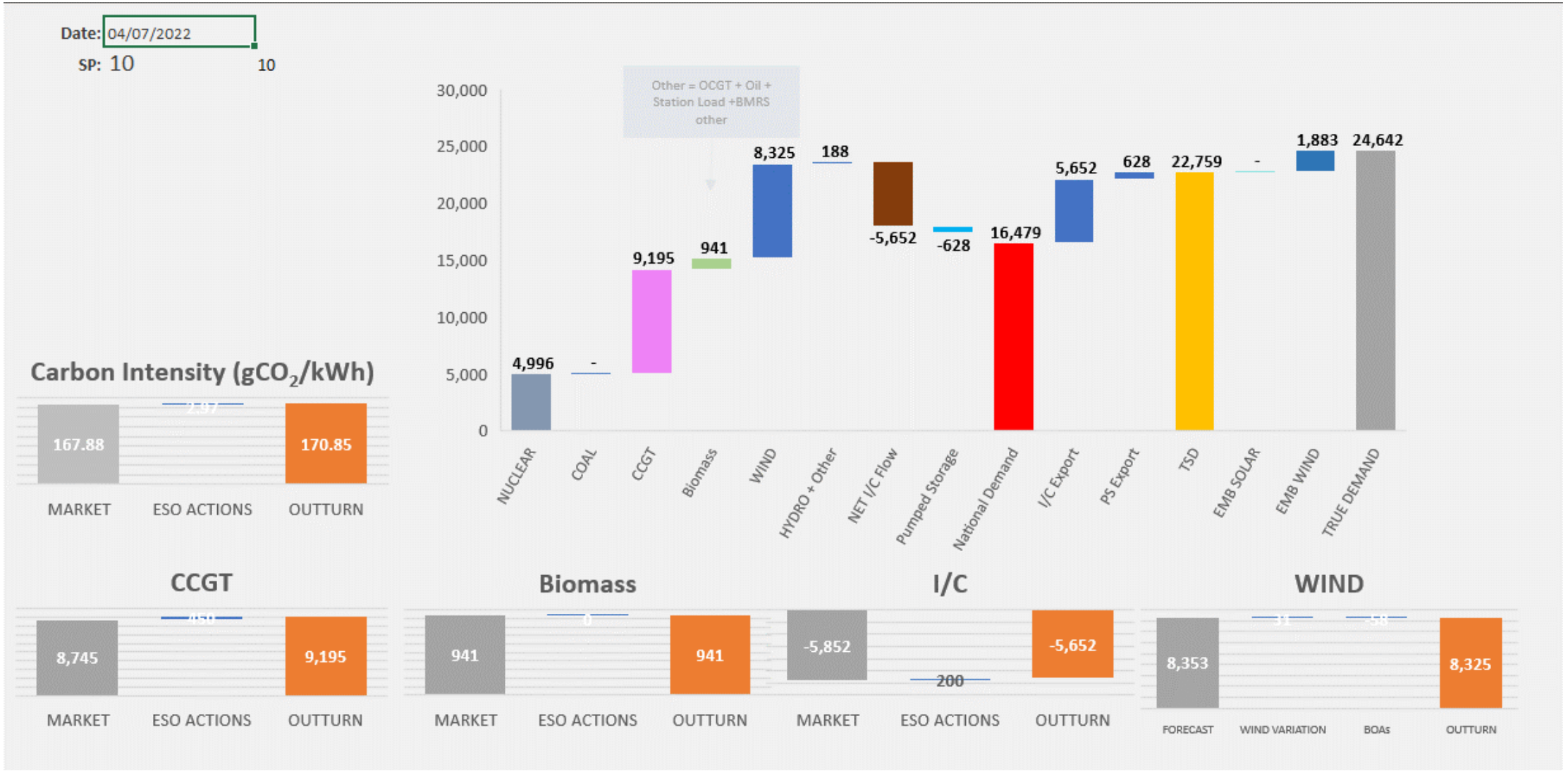
Increasing inertia
No Intervention required to manage Inertia

ESO Actions | Thursday 07 July – Peak Demand



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

ESO Actions | Monday 04 July – Minimum



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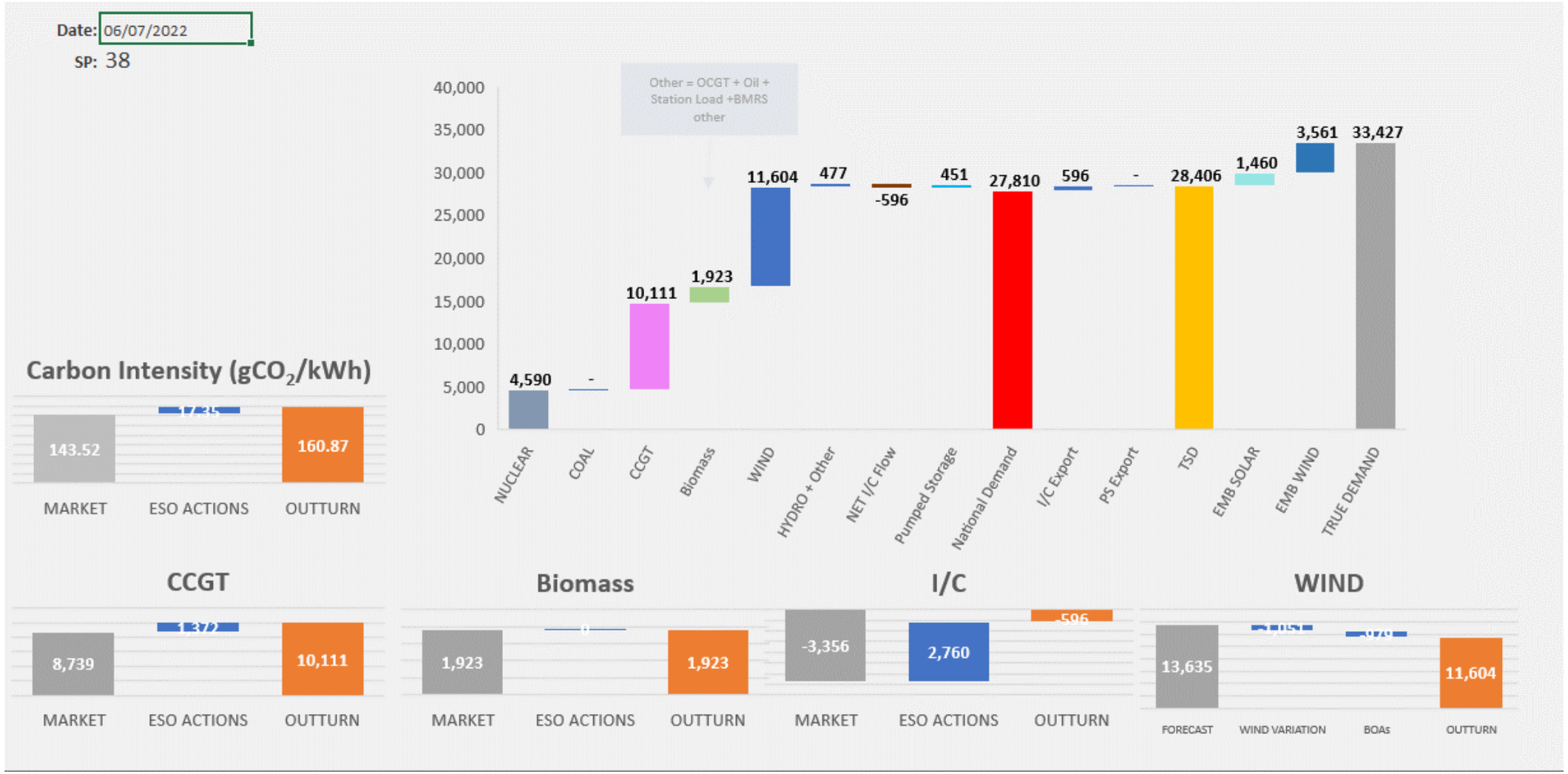
ESO Actions | Wednesday 06 July - Highest SP Spend ~£0.95m



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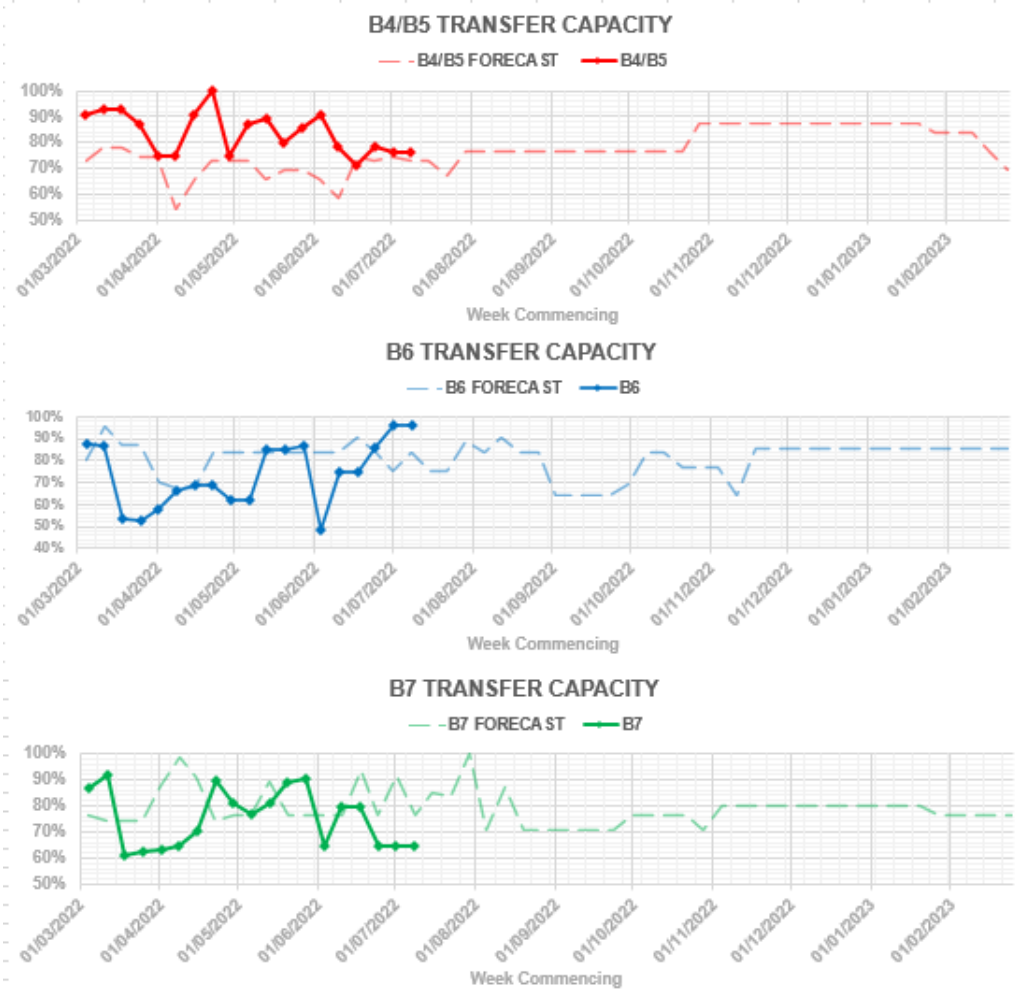
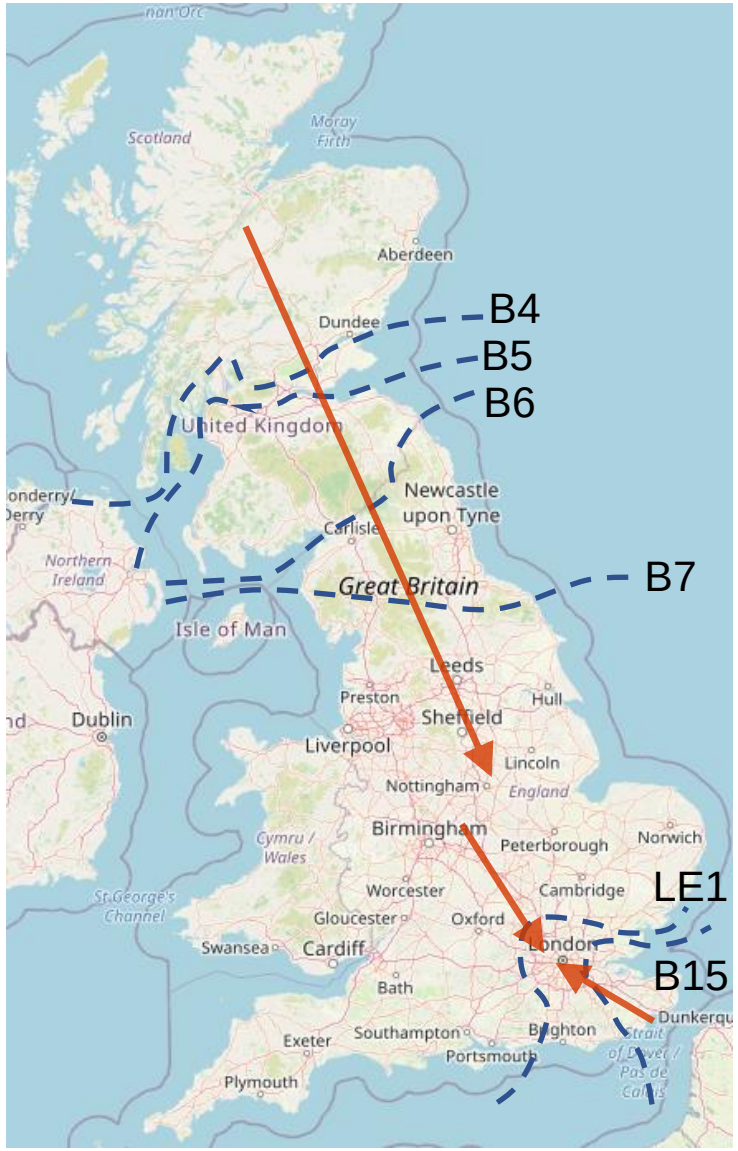
Transparency | Network Congestion

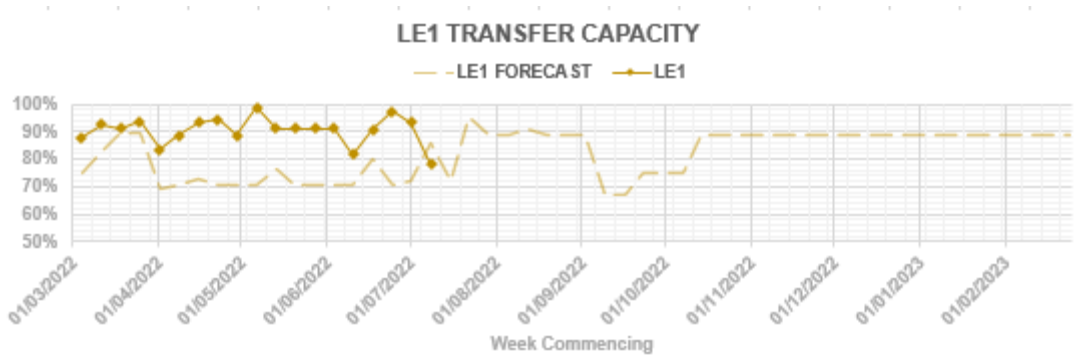


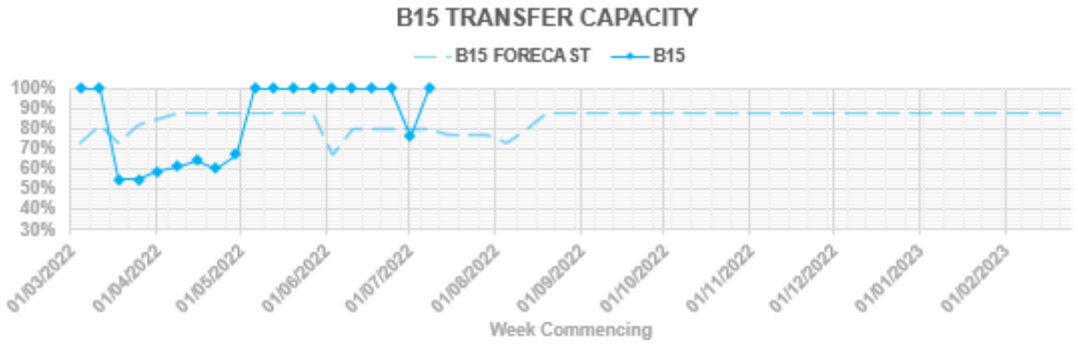
Boundary	Max. Capacity (MW)
B4/B5	2750
B6	5600
B7	8400
LE1	7000
B15	7500



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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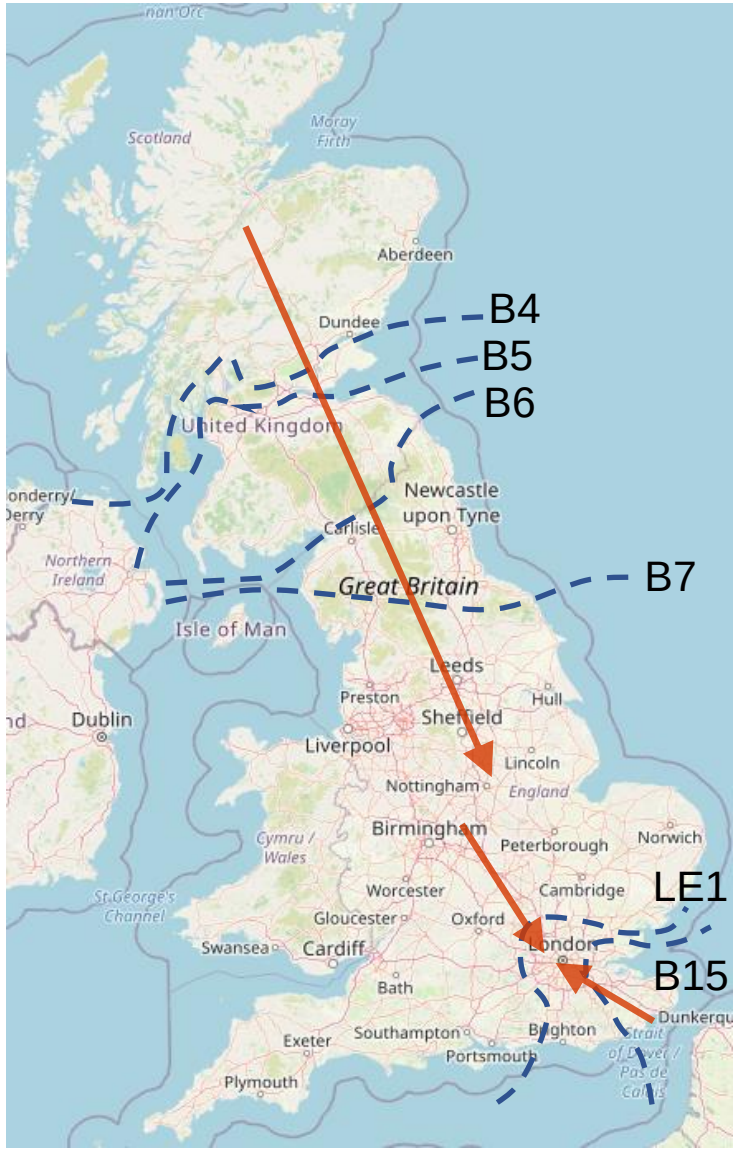

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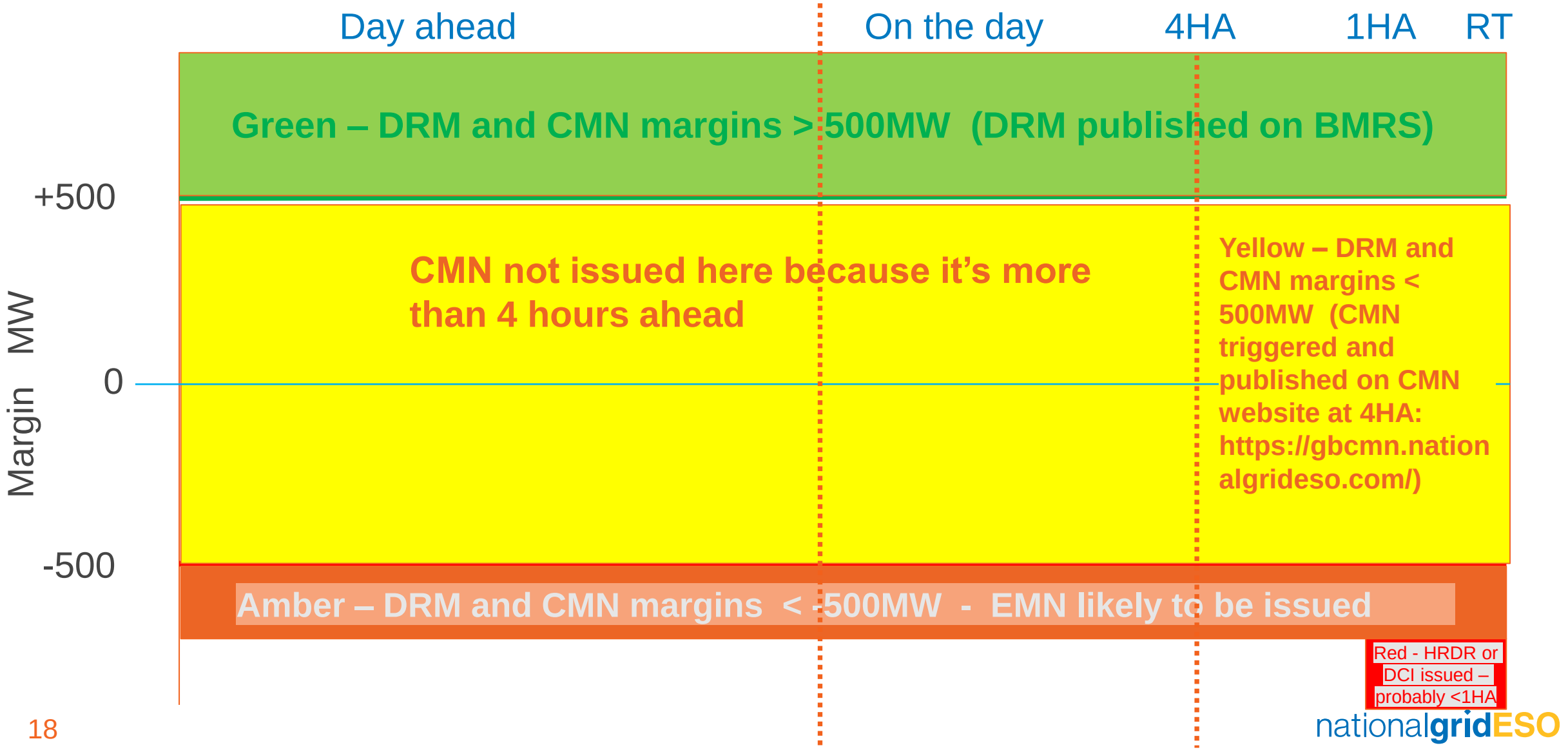
Overview of market margin signals and differences

De-rated Margin (DRM) and Loss of Load Probability (LoLP)	Published automatically and continuously on Balancing Mechanism Reporting System (BMRS)	From midday day ahead to one hour ahead of real-time
Capacity Market Notice	Only published at 4 hours ahead if calculated margin forecast is <500MW trigger threshold	Published on a separate dedicated website and BMRS
Electricity Margin Notice / High Risk of Demand Reduction / Demand Control Imminent	Manual calculated and normally only issued if reserve has already been eroded (margin < -500MW)	Sent out to individual market participants and published on BMRS

Margin thresholds – traffic lights



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Capacity Market Notification (CMN) issue update

What Happened:

- Across the last 2 winters, three CMN's have been issued when margins were relatively healthy.
- The last one was on 24th January 2022.

Why did this happen?

- There was a late withdrawal of Physical Notification's (PN) combined with an issue in the CMN calculation logic.
- Under a specific set of circumstances, the CMN margin was calculated to be too pessimistic.

Mitigation status:

- We have now implemented a software change in our Market Operation Data Interface System (MODIS) to resolve this specific issue.
- The fix has been tested against different scenarios including the one which resulted in the last false CMN on 24th Jan.
- We are confident that this issue should not now recur and in future false CMN's will not be issued in similar circumstances to those previously encountered.

More information on the different margin signals that we publish can be found at the following page on our website:
https://www.nationalgrideso.com/electricity-explained/how-do-we-balance-grid/what-are-margins

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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

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