

ESO Operational  
Transparency Forum  
9 March 2022

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

## Introduction | Sli.do code #OTF

Please visit [www.sli.do](http://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](mailto: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>

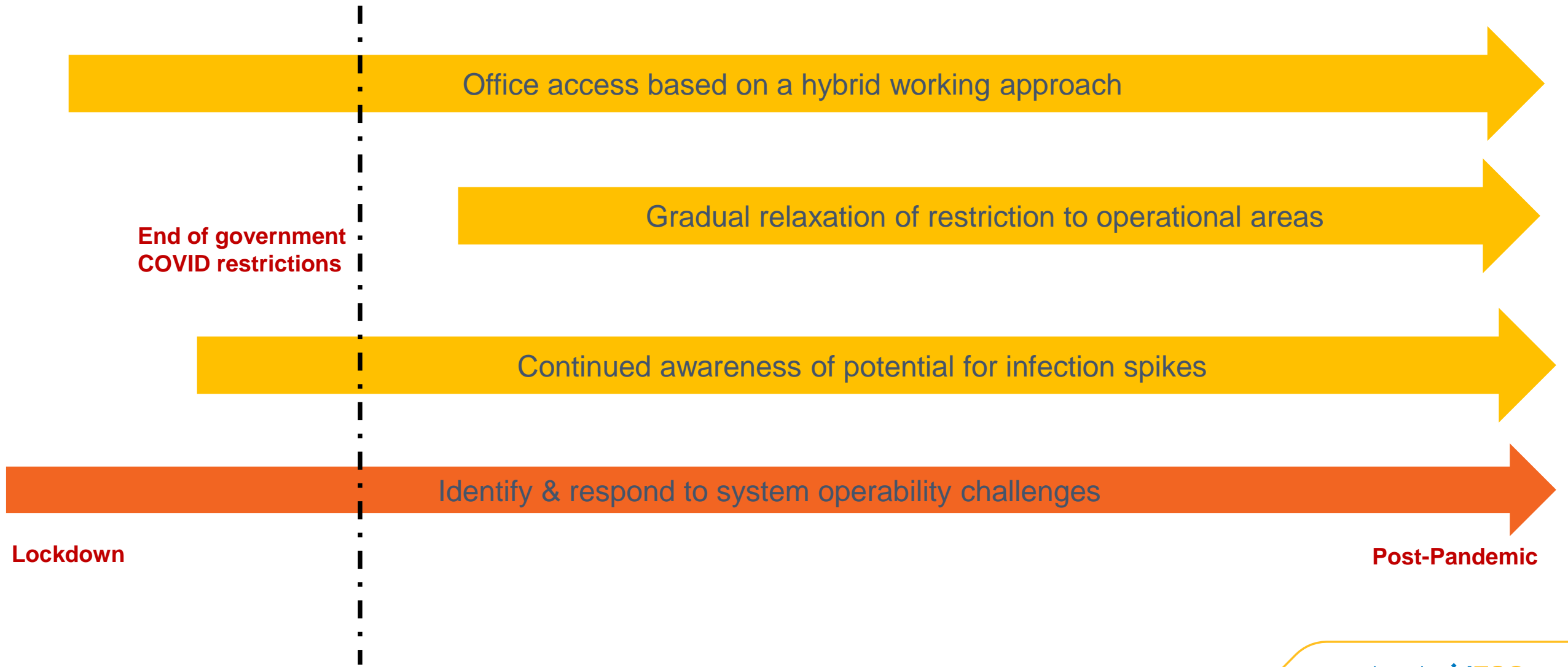
### Regular Topics

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

### Focus Areas

- Local Constraint Market – Managing B6 boundary
- Dynamic Moderation & Dynamic Regulation update
- Manifest Error process overview

# Protecting critical staff to maintain critical operations



End of government  
COVID restrictions

Office access based on a hybrid working approach

Gradual relaxation of restriction to operational areas

Continued awareness of potential for infection spikes

Identify & respond to system operability challenges

Lockdown

Post-Pandemic

## 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: There is a sharp frequency drop that occurs every day at 00:30. Can the National Grid give some color on what is the reason behind this?**

A: We are currently seeing a sharp increase in demand at this time every night, current levels are about 600MW, which would explain the change in frequency. This will be from a of teleswitched demand.

**Q: Ref the interconns at 1200 day ahead and margins, how about changing the deadline for interconn pseudo PNs from 1300 hrs to 1200 hrs (or delay the first margin publication to 1300 hrs). Either way it prevents misleading data going out.**

A: Delaying the day ahead midday de-rated margin run published on BMRS until after the day ahead interconnector auction results was looked at. Although a good idea, this change was not felt to be a priority by the Elexon Issue 92 working group in view of all the other higher priority IS work in train by NGENSO.

**Q: An offer was accepted in SP22 at £9999 this morning (1MWh).....however it was not published in Detailed System Prices dataset later on. Was it an error and so removed?**

A: We have reviewed the data and cannot see evidence of an offer at £9,999/MWh. If you would like us to look into this further then please can you email us at [box.NC.Customer@nationalgrideso.com](mailto:box.NC.Customer@nationalgrideso.com) and include the unit name. Alternatively you could query with Elexon.

**Q: Would you have a figure of how much wind got cut out due to the storm?**

A: During the storms Dudley, Eunice and Franklin the amount of installed wind farm capacity that experienced cut-out was 3.1GW (31 wind farms). Out of the total metered wind power (~18GW).



## Questions outstanding from previous weeks

Q: Thanks for the reply re: SO-SO trades. It was that area rather than NGESO Market Unilateral Interconnector Trading actions I was looking at. Just to see if the 'Neighbours' initiate more late notice activity. Referring to: Is there any indication of the dates and Volumes of SO-SO Trading initiated by Trading parties?. Noting that Ireland have a more volatile system with frequent large scale curtailment of Wind.

A: NGESO does not publish SO-SO trade data for services initiated by other TSOs however such data is available via the following links:

Type of trade <u>initiated by other TSOs</u>	Level of transparency (connected TSO)
<b>RTE SO-SO trades</b>	Here is a link for SO-SO transactions publications for RTE-NGESO trades. <a href="https://services-rte.com">Cross Border Balancing - RTE Services Portal (services-rte.com)</a> Here is a link for French balancing market <a href="https://services-rte.com">Equilibrage - RTE Portail Services (services-rte.com)</a>
<b>SONI/ EIRGRID SO-SO trades</b>	Here is a link for the Cross Border Balancing Business Process between EirGrid / SONI and National Grid Electricity Transmission <a href="https://www.sem-o.com/documents/general-publications/BP_SO_11.2_CBB_Trading_between_EirGrid_SONI_and_NGET.pdf">https://www.sem-o.com/documents/general-publications/BP_SO_11.2_CBB_Trading_between_EirGrid_SONI_and_NGET.pdf</a>
<b>Elia RD CT trades</b>	Here is a link for the RD CT activations performed by Elia: <a href="https://www.elia.be/en/grid-data/congestion-management/activations">https://www.elia.be/en/grid-data/congestion-management/activations</a>

## Questions outstanding from previous weeks

**Q:** How are the SO-SO balancing trades and emergency trades (volume and price) reported real time to the market? If they are not reported real time what steps is the ESO taking NOW to introduce this transparency immediately?

**A:** Link to data: <https://data.nationalgrideso.com/ancillary-services> (National Grid Data Portal)

### SO-SO Trade Prices

[Today/Tomorrow](#) shows today's prices for System Operator to System Operator (SO-SO) trades on those Interconnectors for which the System Operator has systems in place to provide this data in a structured format.

[Historic](#) shows data for previous days (where structured data is available i.e. only for the IFA, and only for Settlement Days following the implementation of CP1333). Data may be selected by Settlement Date and Start Time - note that these should be entered in local time (although the data displayed on the page is in GMT, as provided by the System Operator).

The data items shown on the Today/Tomorrow and Historic screens are as follows:

**Trade Type** is a code that identifies the type of SO-SO trade. Currently there are four:

1. BALIT\_NG for 1-hour BALIT products offered on the IFA by National Grid, and BALIT\_RTE for 1-hour BALIT products offered on the IFA by RTE;
2. EWIC\_EG for 1-hour CBB products offered on the East-West Interconnector by EirGrid and EWIC\_NG for 1-hour CBB products offered on the EWIC by NGENSO;
3. MOYLE\_SN for 1-hour CBB products offered on the Moyle Interconnector by SONI and MOYLE\_NG for 1-hour CBB products offered on the Moyle Interconnector by NGENSO; and
4. BritNed\_TN for products offered on the BritNed Interconnector by TenneT TSO B.V. and BritNed\_NG for products offered on the BritNed Interconnector by National Grid ESO.

## Questions outstanding from previous weeks

*(continued from previous slide)*

**Start Time** identifies the UTC start time of the 1 hour time block to which the price relates. (For the Trade Types these time blocks are always one hour long, although the BMRS does support other durations, should these be required in the future).

**Trade Direction** identifies how the energy flow is to be seen from the perspective of the Acquiring system Operator's area. Values are A01 (meaning 'OFFER') or A02 (meaning 'BID').

**Contract Identifier** is a unique identifier for the offered trade.

**Trade Quantity** identifies the volume (in MWh) offered.

**Price** identifies the associated price. For the all Trade Types this will always be in £/MWh.

Data will be published as and when BMRS receives it from the System Operator. Data will be sent shortly after gate closure for each hour of the day. The Today/Tomorrow screen will therefore show prices up to one hour ahead for different Trade Types.

At present the ESO are using SO-SO trades very infrequently, we are working on an interim reporting method to upload details of our SO-SO trades to the ESO data portal in the next few months. However, assuming the ESO current work to enhance the SO-SO trading capabilities under TCA with our TSO partners is successful, we will be including realtime reporting of SO-SO trades on our new strategic external open data platform

### Emergency Trades:

[GC0109](#) now requires NGENSO to publish a slightly wider range of warning/alerts etc on BMRS. The final report summarises everything that we put on there. One of the new categories is when we have had to ask for emergency assistance from an interconnector. Emergency instructions already were published on BMRS. NGENSO does reserve the right to anonymise where necessary for commercial/security reasons. Typically data is on BMRS within 15 mins.



## Questions outstanding from previous weeks

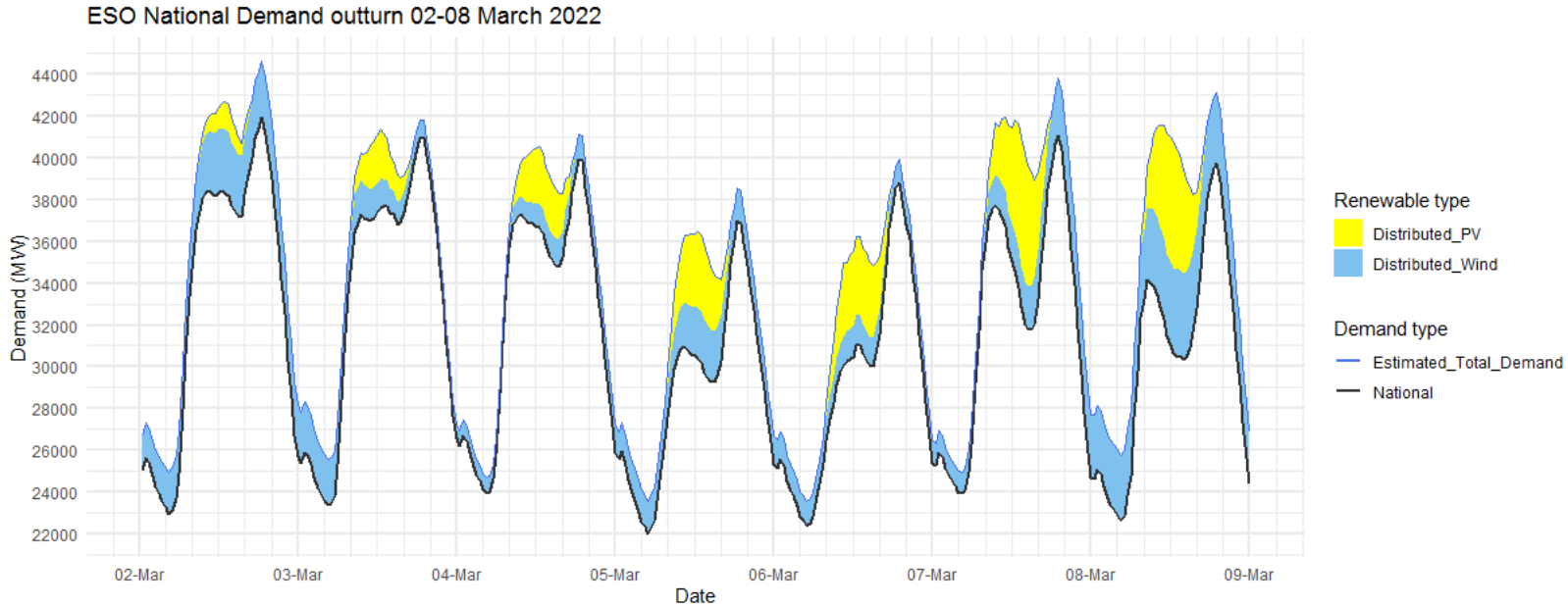
Outstanding questions we are still working on

Q: Does REMIT data always take priority over PN/MEL data? E.g. with Keadby currently, we should ignore FPN/MEL's because REMIT says 0MW even though FPN/MEL may not. I.e. does this hierarchy always prevail?

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=actgeneration/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?

Q: Are Eleclink export volumes included in DATF during its commissioning period? I.e. it has no PN but are Grid still aware of its expected export volumes from REMIT and including those in dem fc

# Demand | Last week demand out-turn

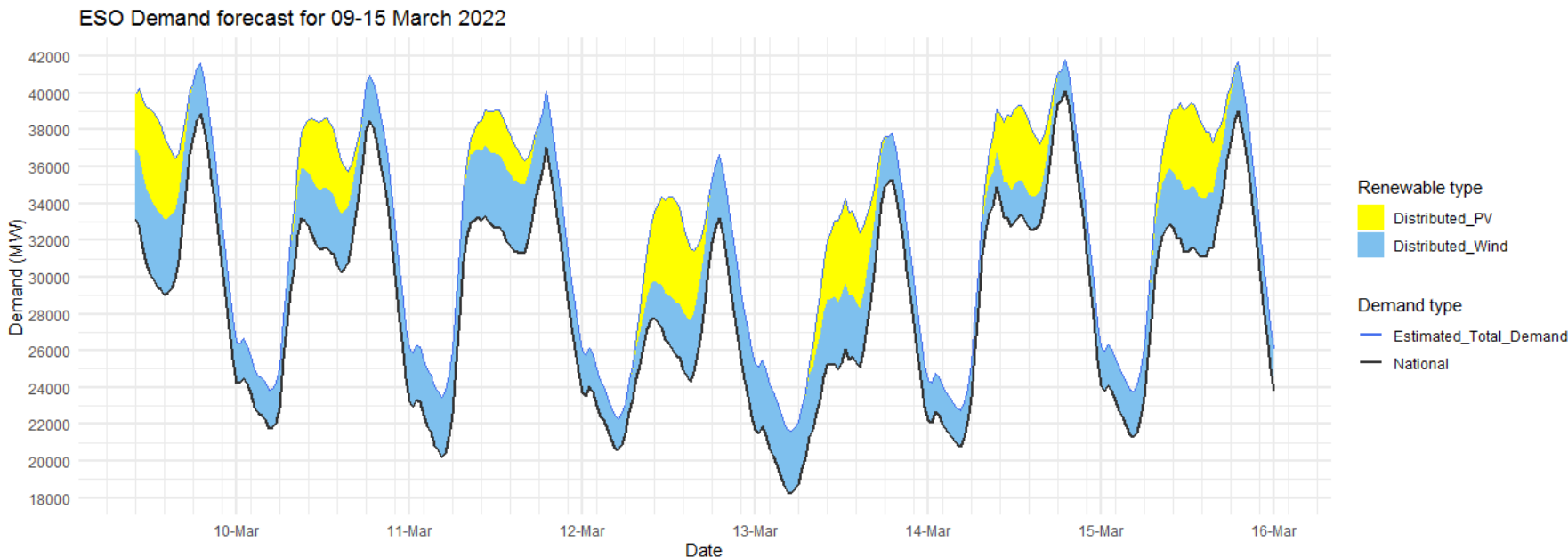


The black line (National Demand) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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.

Date	Forecasting Point	FORECAST (Wed 02)		OUTTURN	
		National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Dist. wind (GW)
02 Mar	Evening Peak	40.4	2.7	41.9	2.7
03 Mar	Overnight Min	22.5	2.2	23.4	2.2
03 Mar	Evening Peak	41.2	1.2	41.0	0.8
04 Mar	Overnight Min	24.0	0.8	24.0	0.7
04 Mar	Evening Peak	40.5	0.7	40.0	1.1
05 Mar	Overnight Min	22.9	0.9	22.0	1.5
05 Mar	Evening Peak	36.9	1.2	37.0	1.6
06 Mar	Overnight Min	22.6	1.0	22.3	1.2
06 Mar	Evening Peak	38.5	1.1	38.8	1.1
07 Mar	Overnight Min	23.5	1.3	23.9	1.0
07 Mar	Evening Peak	42.1	1.9	41.1	2.7
08 Mar	Overnight Min	23.8	2.0	22.6	3.1
08 Mar	Evening Peak	41.4	2.4	39.8	3.4

# Demand | Week Ahead

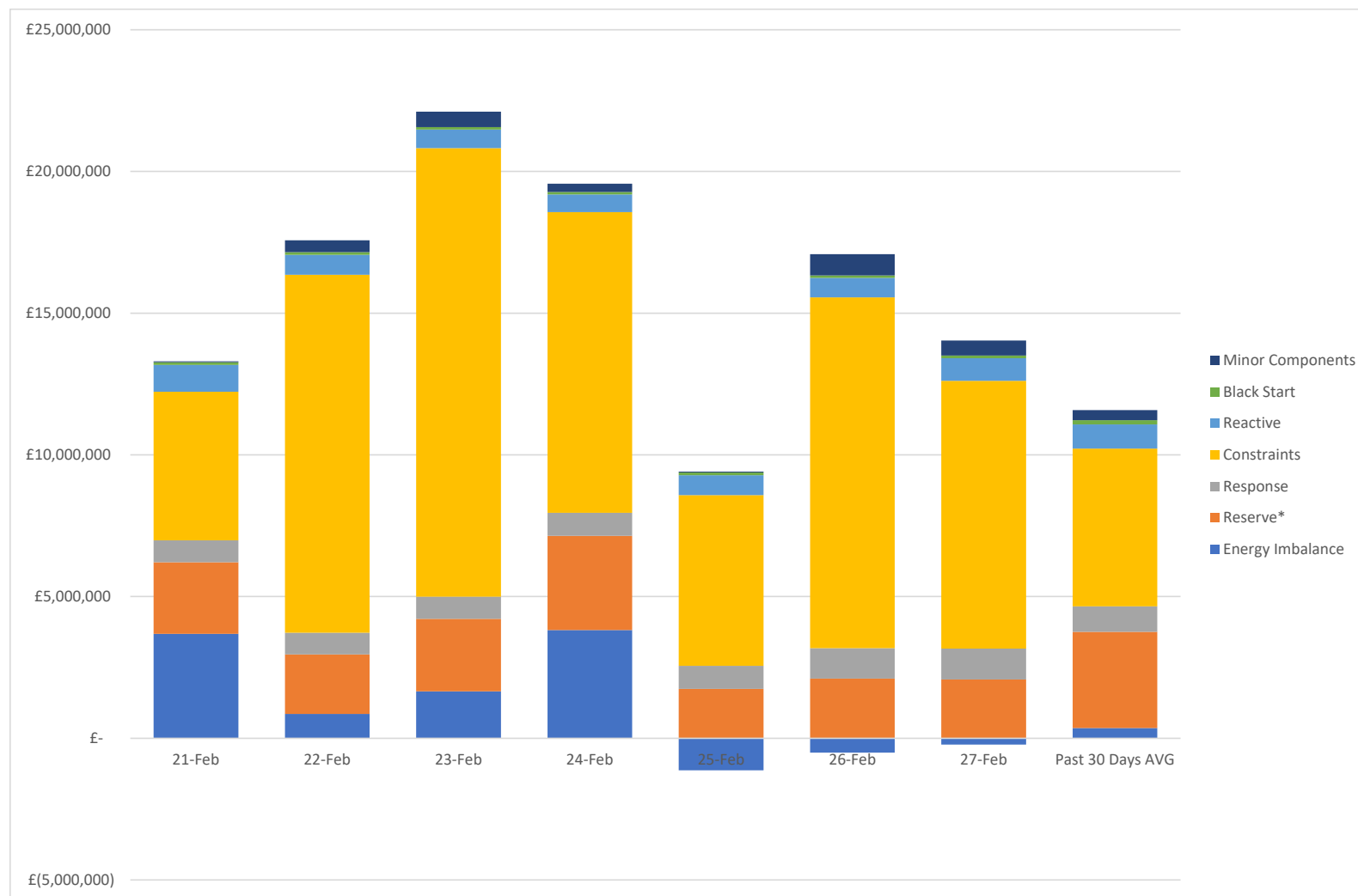


The black line (National Demand) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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.

		FORECAST (Wed 09)	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)
09 Mar	Evening Peak	38.9	2.7
10 Mar	Overnight Min	21.8	2.1
10 Mar	Evening Peak	38.5	2.5
11 Mar	Overnight Min	20.2	3.3
11 Mar	Evening Peak	37.1	3.1
12 Mar	Overnight Min	20.6	1.7
12 Mar	Evening Peak	33.2	3.5
13 Mar	Overnight Min	18.2	3.4
13 Mar	Evening Peak	35.3	2.5
14 Mar	Overnight Min	20.8	1.9
14 Mar	Evening Peak	40.1	1.7
15 Mar	Overnight Min	21.3	2.5
15 Mar	Evening Peak	39.0	2.6

## Transparency | Costs for Week Ending 27 Feb

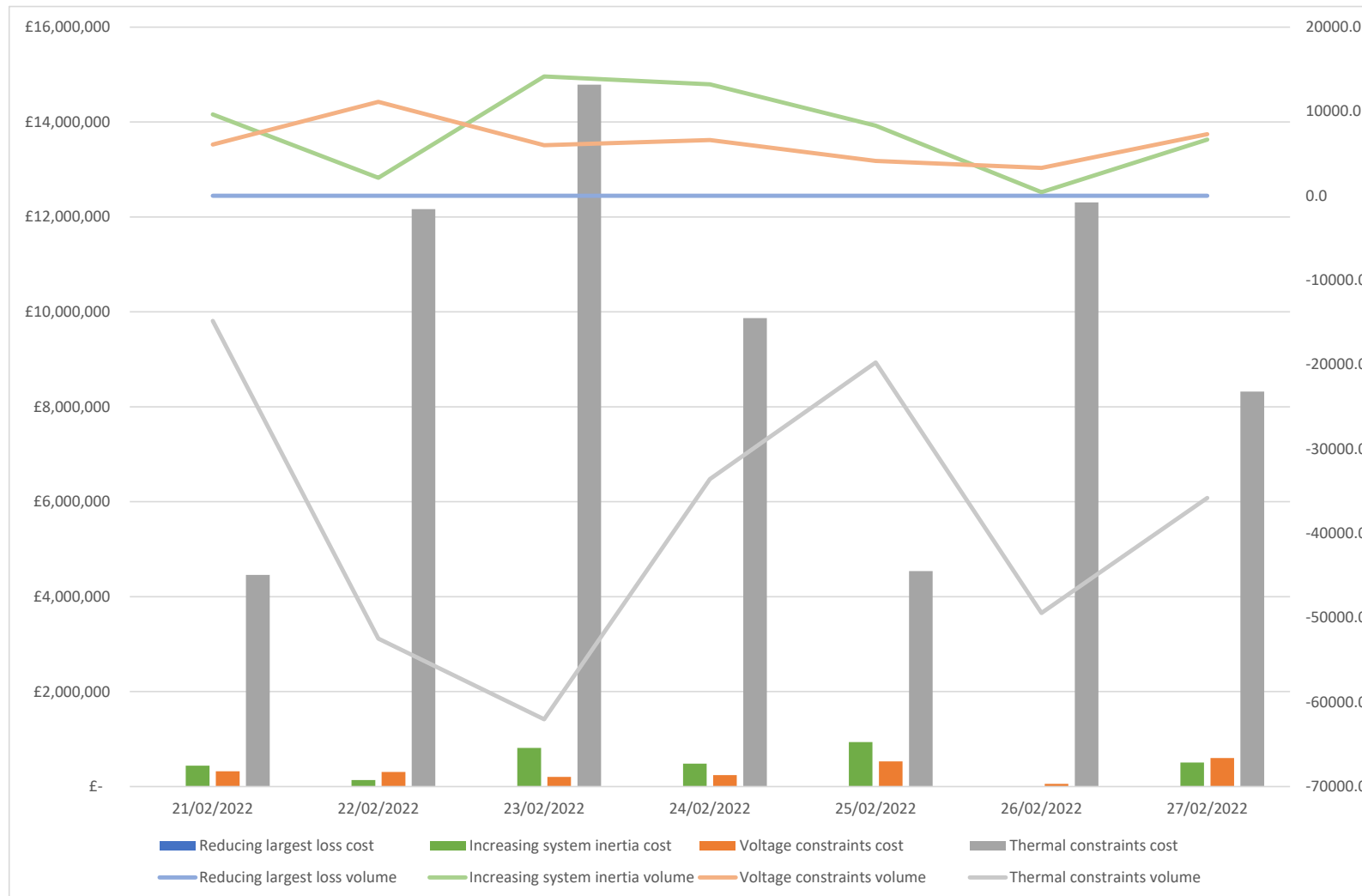


Wednesday 23rd was the most expensive day with a spend of nearly £23m. Friday was the only day that recorded a daily cost below £10m.

The main component of the daily spend throughout the week was costs associated to constraint actions.

**Past 30 Days Average is displayed in the chart**

# Transparency | Constraint Cost Breakdown - Week Ending 27 Feb



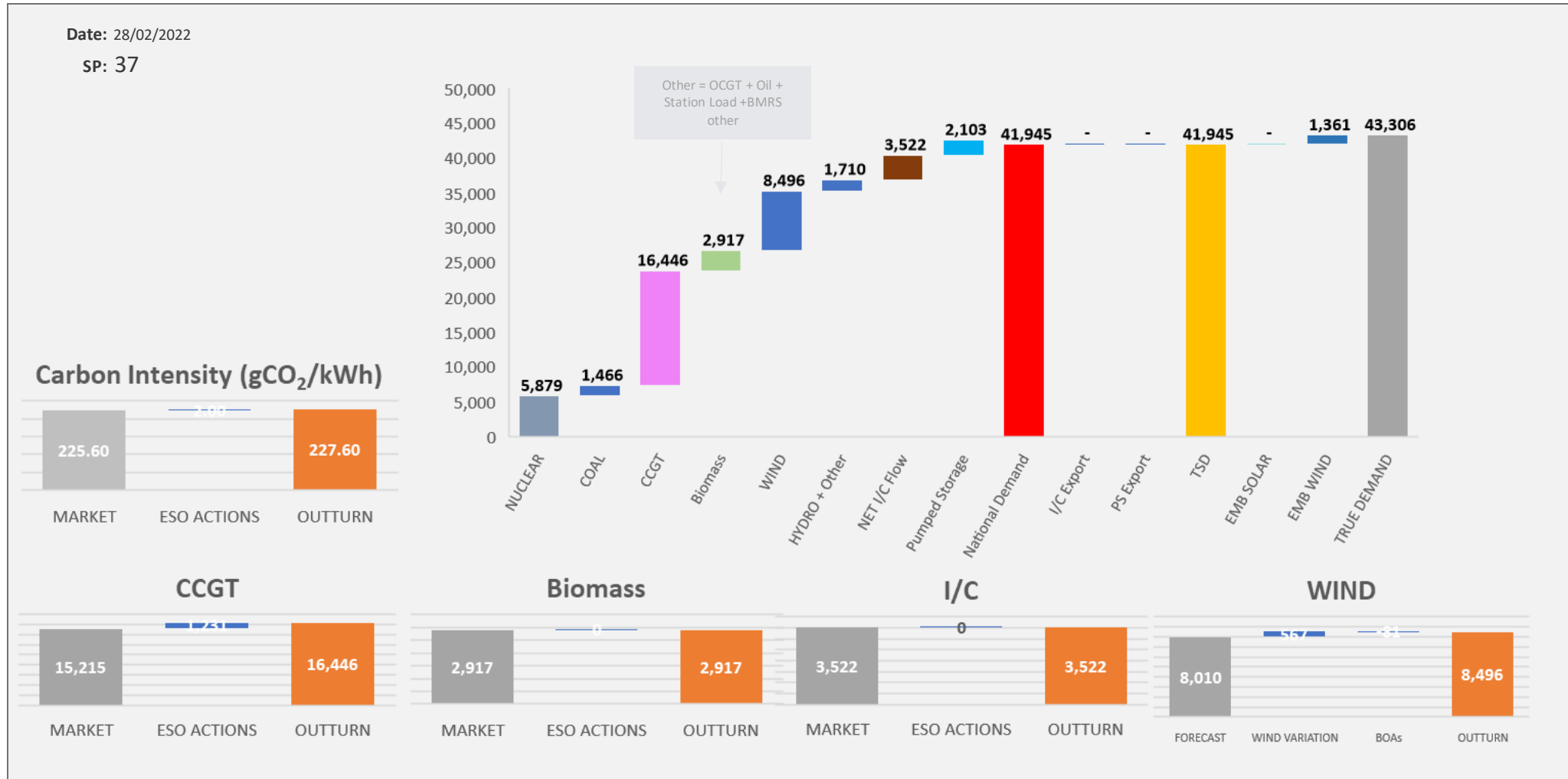
**Thermal – network congestion**  
Throughout all days, actions were required to manage thermal Constraints.

**Voltage**  
Action taken to synchronise generation to meet voltage requirements were required throughout the week.

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

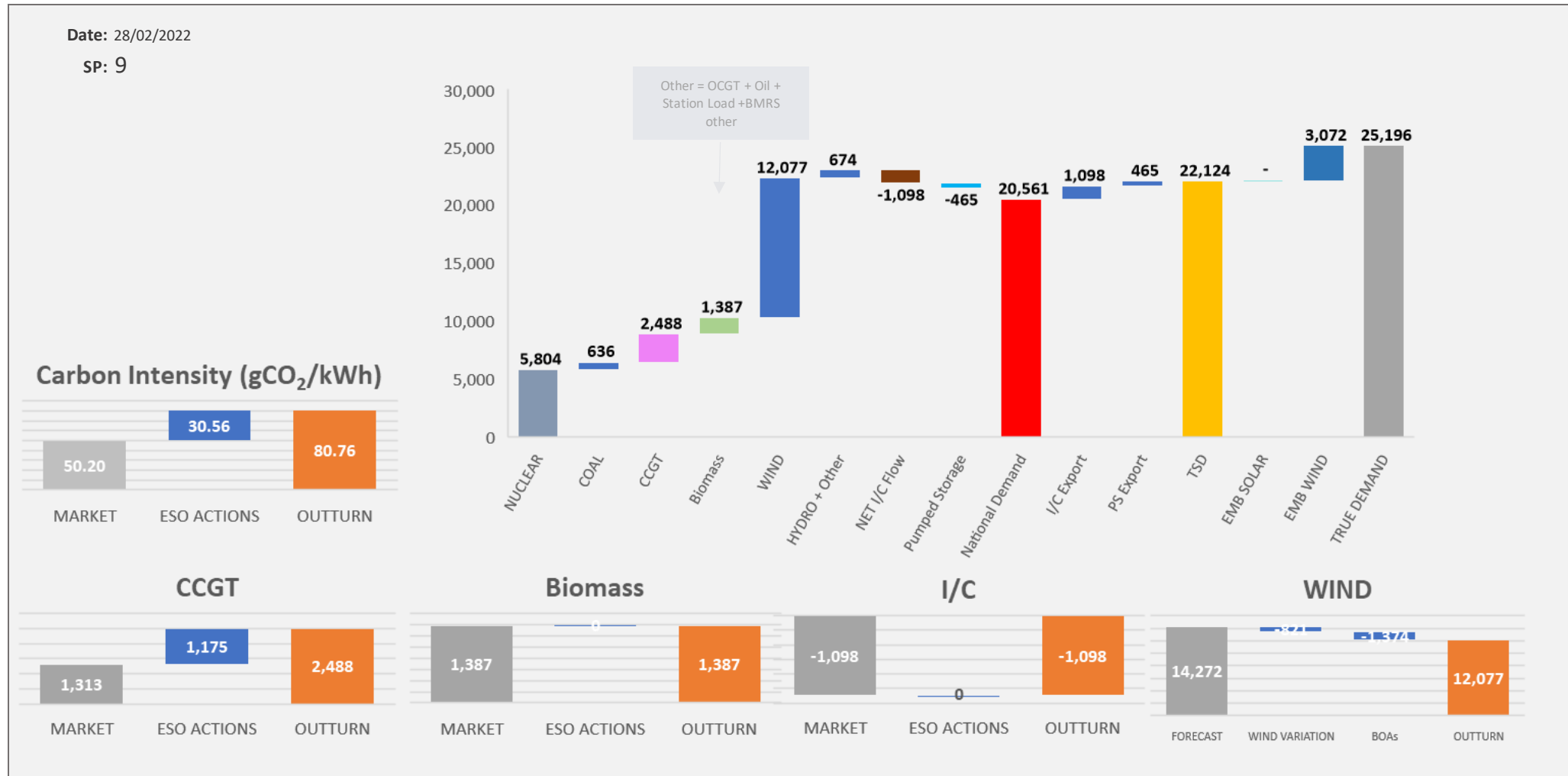
**Increasing inertia**  
intervention required to increase minimum inertia every day except Saturday

# ESO Actions | Monday 28 February Peak

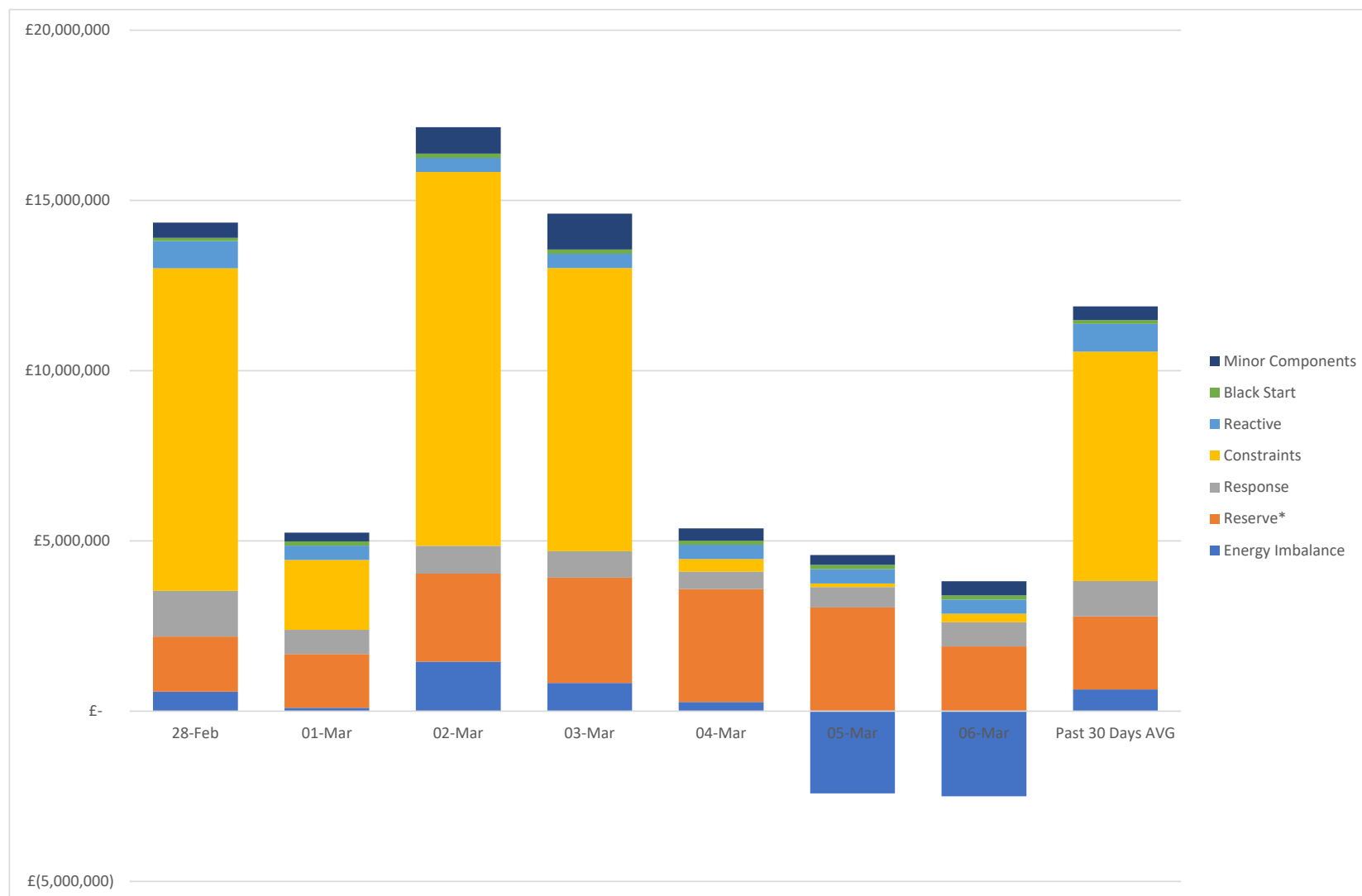




# ESO Actions | Monday 28 February Minimum



## Transparency | Costs for the last Week

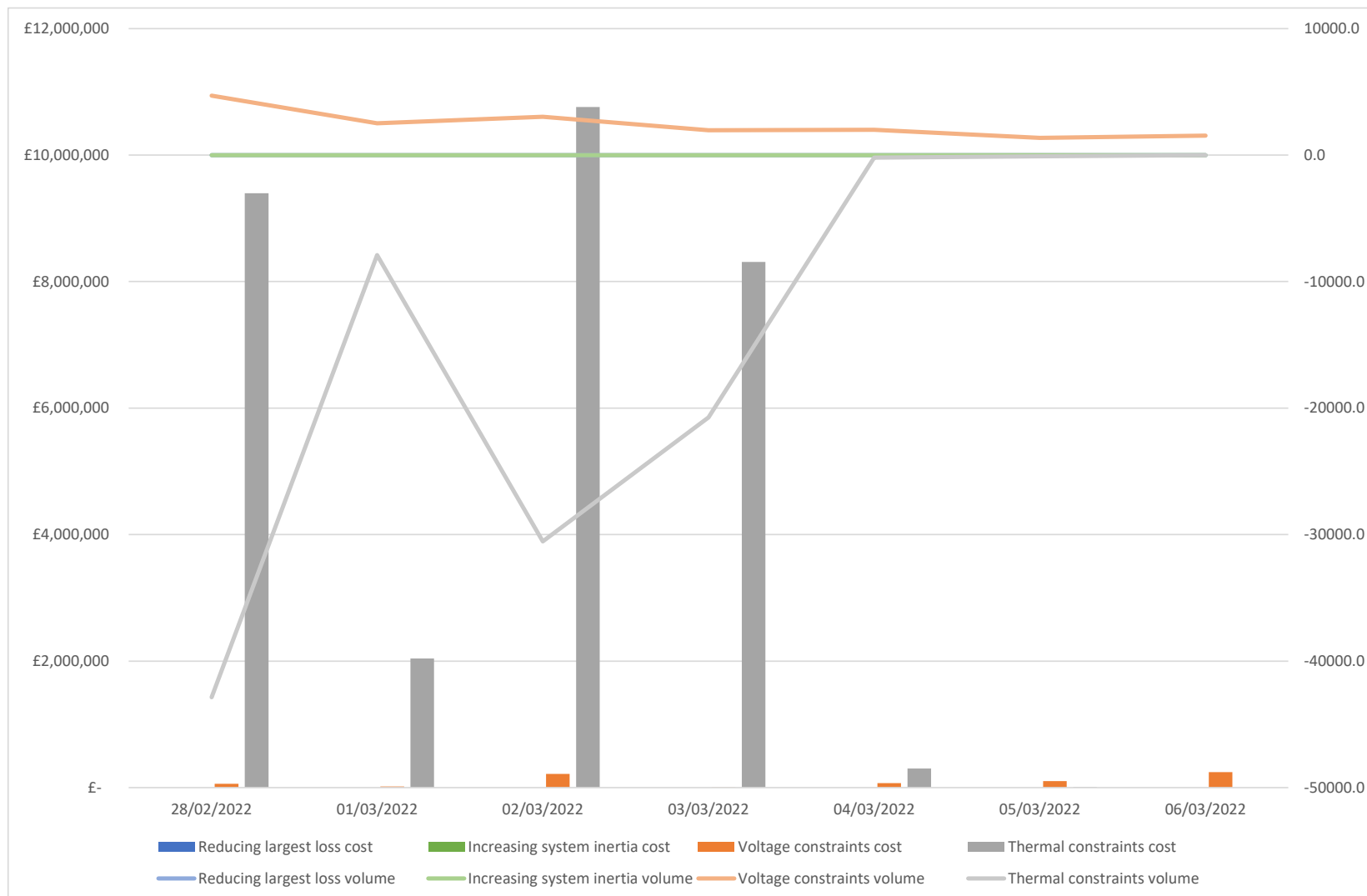


Wednesday 2<sup>nd</sup> was the most expensive day with a spend of £17m. Both Monday 1<sup>st</sup> and Thursday 3<sup>rd</sup> the daily spend was above £13m.

The main component of the daily spend on the expensive days was costs associated to constraint actions.

**Past 30 Days Average is displayed in the chart**

# Transparency | Constraint Cost Breakdown



**Thermal – network congestion**  
 Actions were required to manage Thermal Constraints between Monday and Thursday. No or little intervention required between Friday and Sunday.

**Voltage**  
 Action taken to synchronise generation to meet voltage requirements were required All days except Thursday.

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

**Increasing inertia**  
 No intervention required to increase minimum inertia

# Operational margins: week ahead

## How to interpret this information

This slide sets out our view of operational margins for the next week. We are providing this information to help market participants identify when tighter periods are more likely to occur such that they can plan to respond accordingly.

The table provides our current view on the operational surplus based on expected levels of generation, wind, imports and peak demand. This is based on information available to National Grid ESO as of 9 March and is subject to change. It represents a view of what the market is currently intending to provide before we take any actions.

The indicative surplus is a measure of how tight we expect margins to be and the likelihood of the ESO needing to use its operational tools.

For higher surplus values, margins are expected to be adequate and there is a low likelihood of the ESO needing to use its tools. In such cases, we may even experience exports to Europe on the interconnectors over the peak depending on market prices.

For lower (and potentially negative) surplus values, then this indicates operational margins could be tight and that there is a higher likelihood of the ESO needing to use its tools, such as issuing margins notices. We expect there to be sufficient supply available to respond to these signals to meet demand.

Margins are adequate for the next seven days.

Day	Date	Notified conventional generation (MW)	Wind (MW)	Interconnector availability (MW)	Peak demand (MW)	Indicative surplus (MW)
Thu	10/03/2022	39690	11893	3900	39032	11489
Fri	11/03/2022	38842	14025	3750	37661	13361
Sat	12/03/2022	37629	14483	3750	33680	15905
Sun	13/03/2022	38475	11569	3750	35878	13316
Mon	14/03/2022	40423	8308	4150	40306	8043
Tue	15/03/2022	40468	12131	4150	39880	11666
Wed	16/03/2022	41152	8454	4150	40939	8091

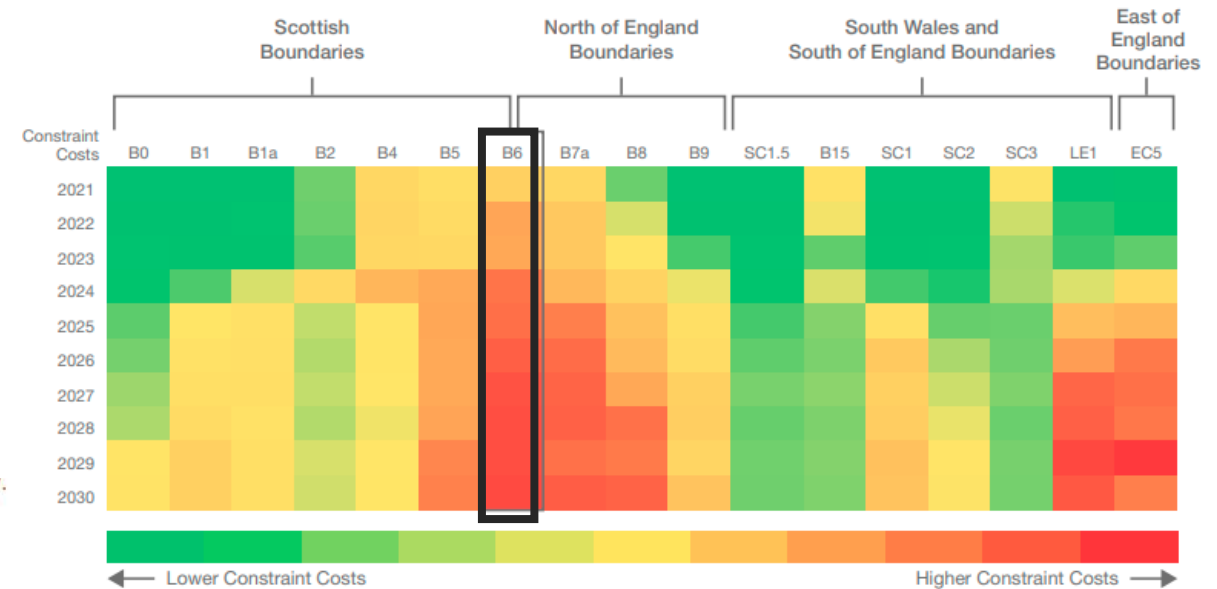
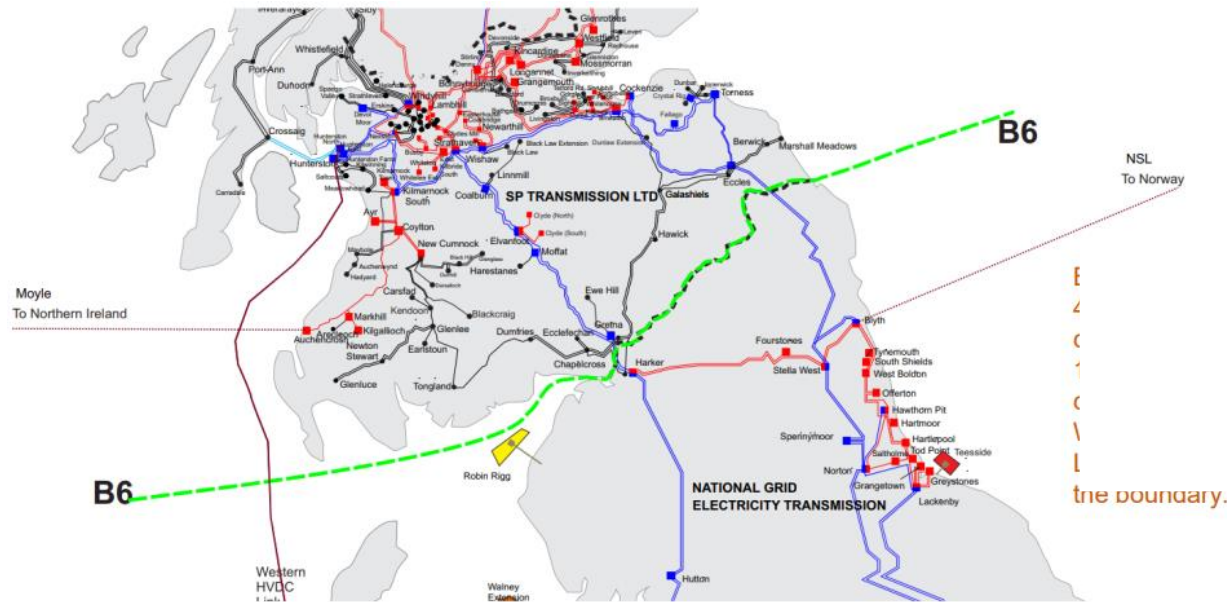
# Transparency | Network Congestion

100% transfer capacity (MW)	
B6	5400
B7	8250
B2/B4	2700



# Local Constraint Market: Managing B6 Boundary

Boundary B6 separates the transmission network at the SP Transmission and National Grid Transmission interface running roughly along the border between Scotland and England.



This heat map shows the boundaries incurring significant costs as constraints increase in particular areas. The B6 boundary has the highest constraints and increasing costs over time



# Local Constraint Market Principles

We are exploring the implementation of a **Local Constraint Market** to address the rising costs of managing the **Anglo-Scottish B6 boundary**.

**National Grid ESO 5-Point Plan** – for managing transmission constraints.

**Accelerated Solution** – estimated delivery Q4 2022.

**Interim Tactical Solution** - a growing need for a tactical solution utilising Distributed Energy Resources DER to manage rising constraint costs on GB's most congested boundary ahead of any delivery of an RDP in Scotland. 3-3.5 years.

**Simple Service to attract new volume** – we are looking to take the learning from the simple construct of the ODFM service and deliver a service with lower barriers to entry that can provide competition to the BM.

**Delivery through a 3rd Party Platform** – to alleviate the burdensome and resource intensive nature we experienced with ODFM due its manual processes through a light touch system to facilitate an accelerated DER market using existing third-party platform software.

# Local Constraint Market Design Highlights

## Eligibility

- Generation turn-down / demand turn-up, connected north of B6 boundary.
- Non BM parties only.
- 1 MW requirement
- Aggregated by technology type and GSP.

## Service Windows and Timings

- Daily day-ahead and within day market.
- Service day runs from 05:00 – 05:00 to align with daily outage plans.
- Two instruction windows:
  - Instruction window 1:** @21:00 day-ahead for delivery from 05:00 – 05:00
  - Instruction window 2:** @13:00 within day for delivery from 17:00 – 05:00

## Assessment

- Assessed daily based on the 17:00 outage plan
- Due to day ahead uncertainty, the LCM will only look to resolve a maximum of 75% of any B6 constraint.
- Assessed against the Balancing Mechanism in the same way our Trading team currently trade
- Wind and Solar load factor applied to Registered Unit Capacity to determine delivery output.

## Settlement

- Utilisation only payments
- Pay as bid based on energy delivered
- Cashout and ABSVD

# Local Constraint Market: Next Steps

## Service Design Consultation

NGESO invites responses to this consultation by **18:00 Friday 8th April 2022**.

Please return your consultation response (as a word document) to:

- **Email:** [futureofbalancingservices@nationalgrideso.com](mailto:futureofbalancingservices@nationalgrideso.com)

For any questions, please contact [adrian.sellar@nationalgrideso.com](mailto:adrian.sellar@nationalgrideso.com)

# Dynamic Moderation and Dynamic Regulation

## Availability/outage information

### Information for non-BM providers

Communicate via an API-based interface with the ESO's non-BM dispatch system, Ancillary Services Dispatch Platform (ASDP)/Platform for Ancillary Services (PAS)

Complete Market Participant Testing between 14 and 25 March. You can book a slot by emailing: [box.support.pas@nationalgrid.com](mailto:box.support.pas@nationalgrid.com)

Submit Prod IPs and URLs as soon as these are available, prior to taking part in testing, to: [box.support.pas@nationalgrid.com](mailto:box.support.pas@nationalgrid.com)

### Information for BM providers

Communicate availability through the Data Concentrator File API

Existing DC BM providers will also communicate availability via Data Concentrator instead of fax

Light touch testing will be required for DC providers, to arrange contact: [box.SmallBMUOpsMeter-ESO@nationalgrid.com](mailto:box.SmallBMUOpsMeter-ESO@nationalgrid.com)

### Performance metering

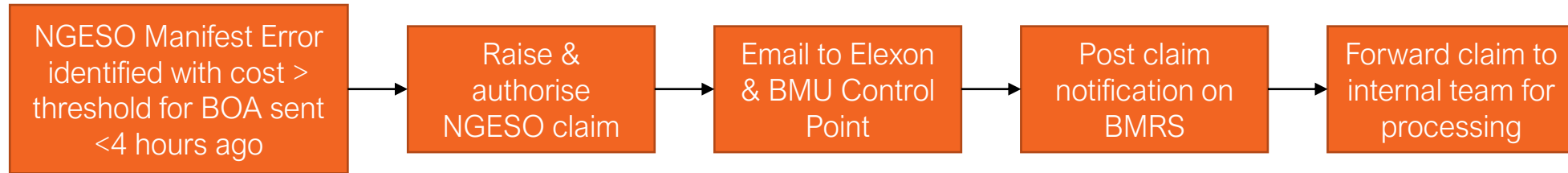
Like DC, DM & DR will use Data Concentrator File API to submit Performance Metering

Not required to modify existing API but light touch testing is required

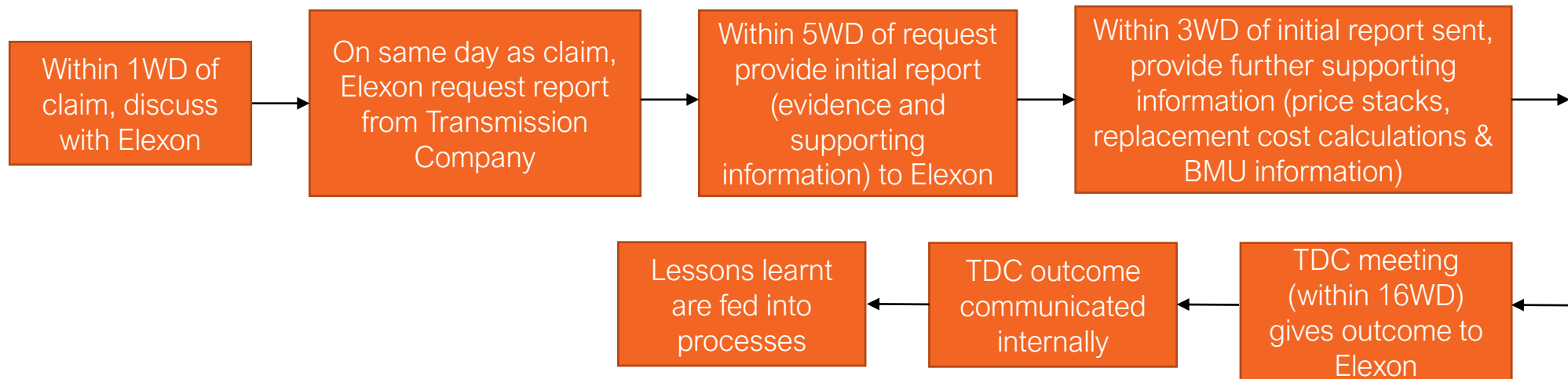
To arrange testing, contact: [box.SmallBMUOpsMeter-ESO@nationalgrid.com](mailto:box.SmallBMUOpsMeter-ESO@nationalgrid.com)

# Manifest Error process

Within control room



Post event processing



slido

# 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](mailto:box.NC.Customer@nationalgrideso.com)

