



ESO Operational Transparency Forum

19th January 2022

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

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>

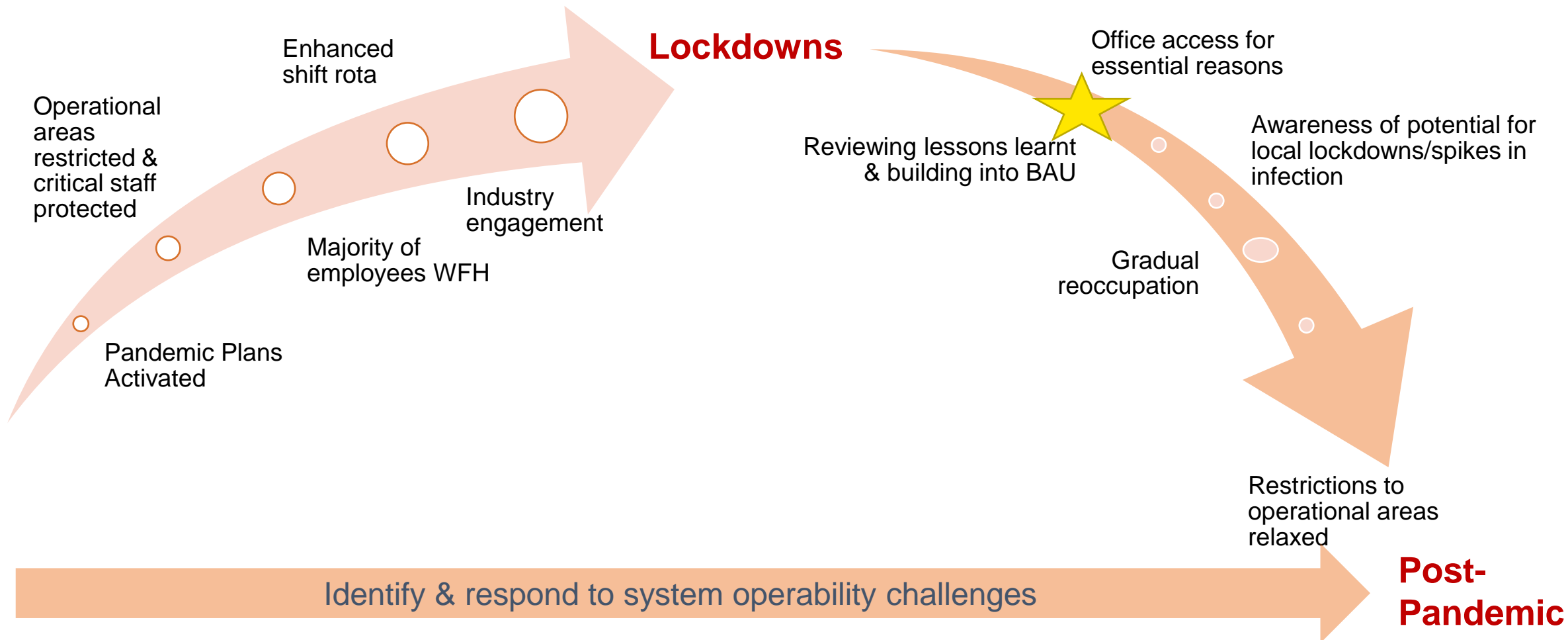
Regular Topics

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

Focus Areas

BSUoS Forecasting

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:

January:

26th Jan: Sterilized Headroom Overview

February:

19th Feb: Balancing Services Adjustment Data (BSAD) Overview

Questions outstanding from last week

Q: Following Sarah's question on ODFM, in procuring negative reserves like this, how can you introduce some kind of prohibition on deliberate energy waste? Using load banks or useless demand (like turning on all the lights) to throw away subsidised renewable output would be a massive own goal.

A: As the ESO, we must ensure that our markets are fair and competitive. As part of this, we have licence obligations that prohibits us from discriminating against balancing service providers based on their technology type and require us to minimise the cost to consumers of our procurement actions. Whilst we support the drive to net-zero in the energy industry, the prevention of energy wastage in delivering flexibility is a wider policy issue for BEIS and Ofgem.

Q: Can we please also have a deep dive into balancing cost forecasting, as well as the demand forecasting.

A: Yes this is scheduled for next week

Q: Past SO trades including emergency assistance still doesn't show up in BSAD. Elexon says it didn't receive any data from NG... when is this issue going to be resolved??

A: We've a deep dive on BSADs in February– we are aware of some discrepancies, and they are under investigation – we will provide an update on 19 February

Q: Why 2 years of price control review for ESO?

A: Recognising the changing energy landscape, during the RIIO-2 period the ESO will publish two-year Business Plans in the context of a five-year strategy. This will allow us to update our plan and proposed investment based on the latest view of the energy landscape, the needs of stakeholders and the pathways to our 2050 net zero target.

Our plan also provides flexibility for other parties. Some of the investments in our plan are designed to remove barriers to these 2050 pathways for other participants in the energy system. For example, stakeholders have welcomed our commitment to be able to operate a zero-carbon electricity system by 2025. This will make sure that system operability is not a constraint on the deployment of low carbon generation

Questions outstanding from last week

Q: If the proposed cap on BSUOS for balance of winter goes ahead under CMP381. How are you expecting operators to schedule plant. A. Schedule using capped BSUOs cost this Winter. Or B. Schedule under expected uncapped cost to hold money to pay for recovery period next Winter?

A: Thanks for the question – we anticipate Ofgem’s decision on CMP381 very soon. (now decision made my authority). We won’t comment on how we would expect operators to make their decisions following a modification.

Q: The daily BSUoS cost report hasn't been updated so far in 2022. When will this be updated, or if it has moved can you point me in the right direction.

A: Thanks for letting us know, it seems up to date on the data portal when checked just now – link here:

<https://data.nationalgrideso.com/balancing/balancing-services-use-of-system-bsuos-daily-forecast> If this isn’t what you were referencing please let us know the link you’re referring to.

Q: Control room seem to have started bidding off Pumped Storage for 30 mins or so forwards, and it's amazing how often they then have to reverse that instruction (as recently as 1 hour ago). Given the nature of PS, might be worth reviewing how it's used - an easy win to reduce balancing costs surely

A: We won’t comment on the days actions – but you’ll be aware that our requirements for a number of operability considerations change on a dynamic basis and actions (including bidding off plant) will be taken as and when required, and in an economic manner. As stated previously, we are committed to driving economic balancing costs – within all timescales including within the Control Room and we review our actions

Questions outstanding from last week

Q: As regards visibility of Embedded Generation are you and the DSOs considering metering enhancement with aggregation by type by GSP say to the ESO?

A: The routes for this are being considered, and will not be decided upon without consultation across industry.

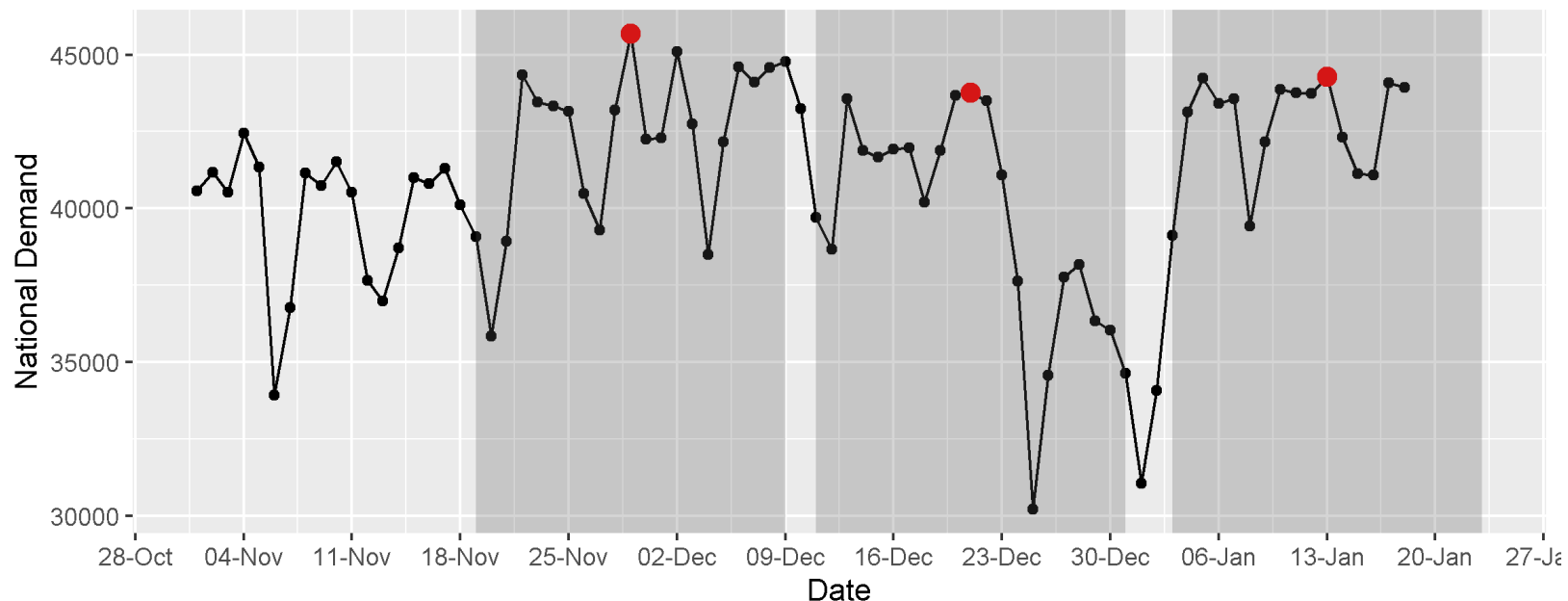
Q: Does anyone eye ball demand forecasts before they are released? Each day so far this week there have been significant jumps/drops (in order of 1gw-3gw) between individual SP's in the middle of the day. It is clear from eyeballing the shape that it's wrong, could anything be done

A: Our forecasting goes through several stages and reviews. We always use the most recent data available at the time of the forecast preparation.

If the input data, e.g. weather forecast data, has changed compared to the previously available information, the demand forecast will change as a result of that.

Similarly, the recent demand outturn is used to set the level of the forecast model used in the calculation. Changes in the forecast from one settlement period to the next are usually the consequence of changes in the weather driven generation forecast.

Demand | Indicative Peak National Demand



ESO operational metering			
Date	Time (HH ending)	National Demand (MW)	Estimated triad avoidance (HH corresponding with the time of the peak) (MW)
29/11/2021	1730	45679	0
13/01/2022	1730	44276	0
21/12/2021	1730	43769	900

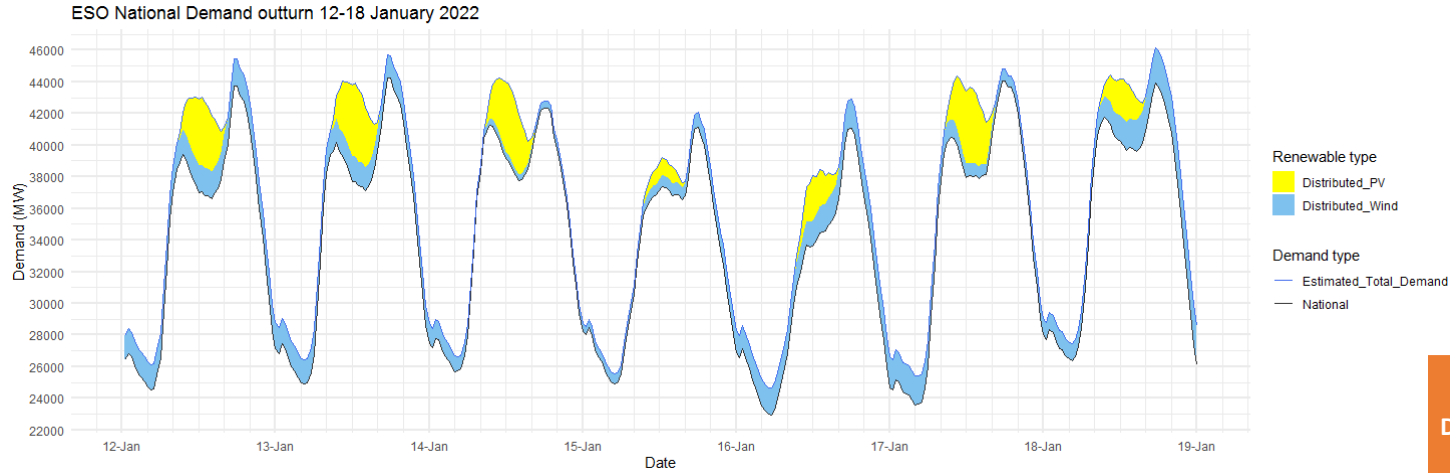
We present National Demand operational metering because triad demand is calculated on the basis of demand excluding interconnector exports. This definition of demand is neither National Demand nor Transmission Demand, but more closely tracked by National Demand.

National Demand does not include station load.

Indicative triad demand on Elexon’s BMRS [website](#) quotes “GB Demand” which is based on the Transmission System Demand definition (it adds 500MW of station load onto the National Demand).

It shows time as half hour beginning.

Demand | Last week demand out-turn

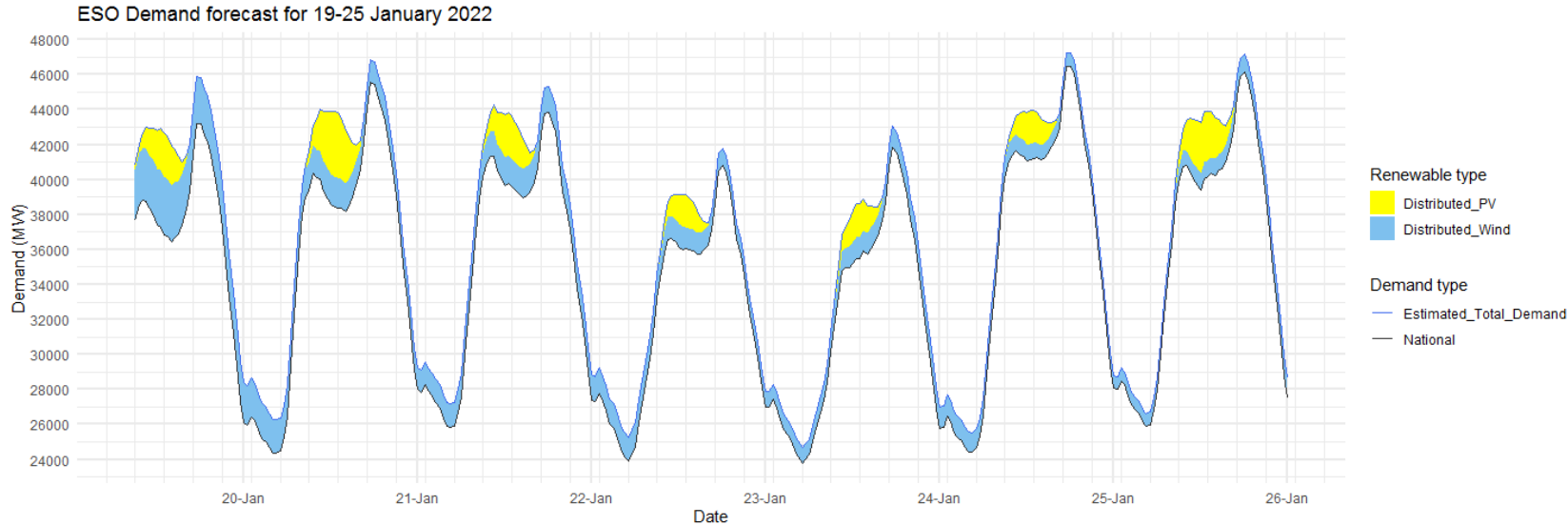


The black line (National Demand) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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 12 Jan)		OUTTURN			
		National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Triad Avoidance est. (GW)	N. Demand adjusted for TA (GW)	Dist. wind (GW)
12 Jan	Evening Peak	43.7	1.7	43.7	0.0	43.7	1.7
13 Jan	Overnight Min	24.7	1.7	24.9	n/a	n/a	1.6
13 Jan	Evening Peak	44.6	1.6	44.3	0.0	44.3	1.4
14 Jan	Overnight Min	25.9	0.9	25.7	n/a	n/a	1.0
14 Jan	Evening Peak	45.0	0.4	42.3	1.1	43.4	0.5
15 Jan	Overnight Min	25.3	0.5	24.9	n/a	n/a	0.7
15 Jan	Evening Peak	41.3	1.0	41.1	0.0	41.1	0.9
16 Jan	Overnight Min	23.7	1.3	23.0	n/a	n/a	1.7
16 Jan	Evening Peak	40.9	2.0	41.1	0.0	41.1	1.8
17 Jan	Overnight Min	23.2	2.1	23.6	n/a	n/a	1.8
17 Jan	Evening Peak	45.7	1.0	44.1	1.0	45.1	0.7
18 Jan	Overnight Min	25.7	0.9	26.4	n/a	n/a	1.1
18 Jan	Evening Peak	45.6	1.3	43.9	0.1	44.0	2.2

Demand | Week Ahead



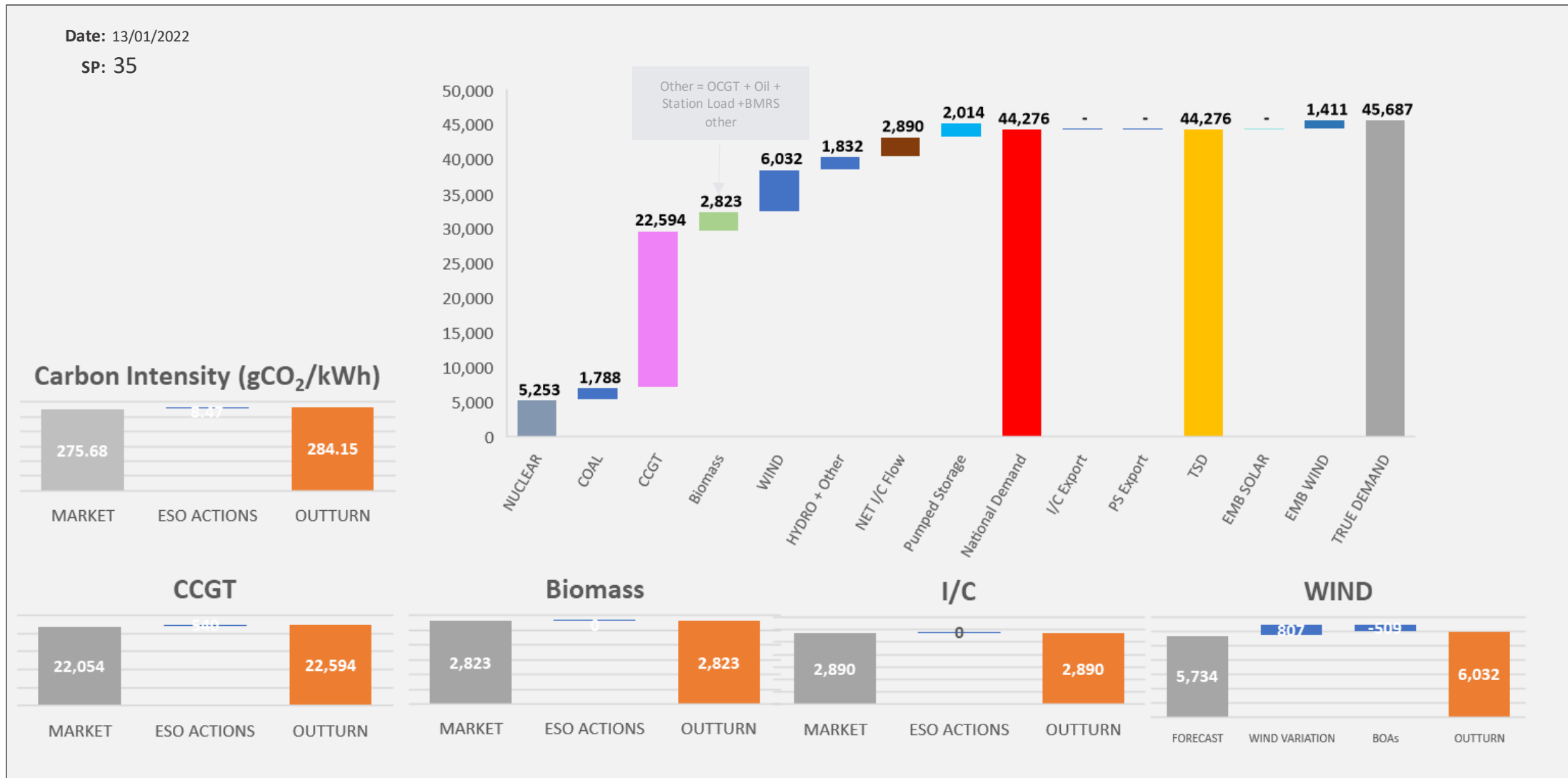
The black line (National Demand) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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.

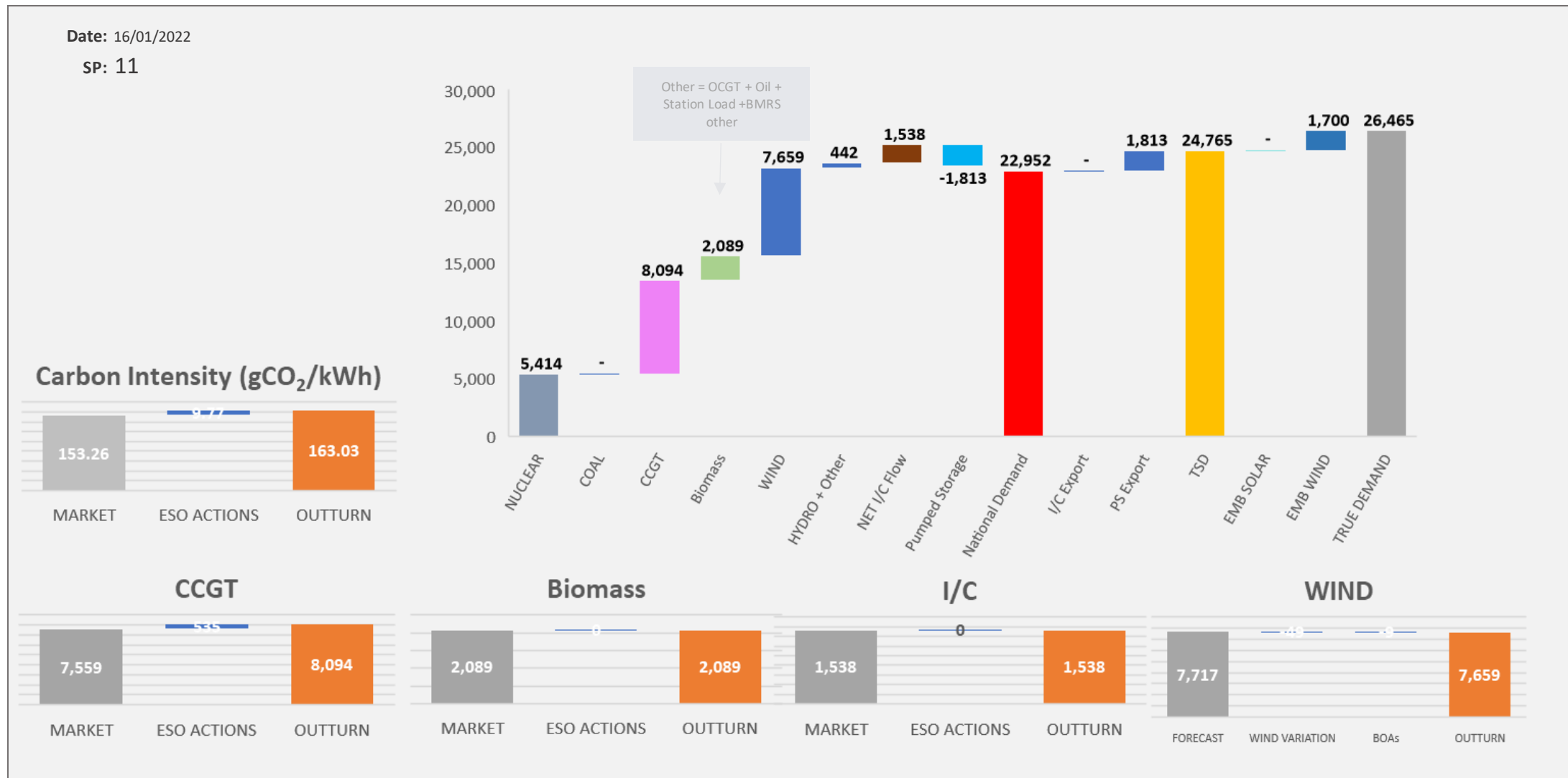
First time ESO shares its Triad Avoidance adjusted **National Demand** forecast is after 21:00 on D-1

Date	Forecasting Point	FORECAST (Wed 19 Jan)	
		National Demand (GW)	Dist. wind (GW)
19 Jan 2022	Evening Peak	43.2	2.6
20 Jan 2022	Overnight Min	24.4	1.9
20 Jan 2022	Evening Peak	45.6	1.3
21 Jan 2022	Overnight Min	25.9	1.3
21 Jan 2022	Evening Peak	43.8	1.5
22 Jan 2022	Overnight Min	23.9	1.4
22 Jan 2022	Evening Peak	40.8	1.0
23 Jan 2022	Overnight Min	23.8	0.9
23 Jan 2022	Evening Peak	41.9	1.2
24 Jan 2022	Overnight Min	24.4	1.1
24 Jan 2022	Evening Peak	46.5	0.8
25 Jan 2022	Overnight Min	25.9	0.7
25 Jan 2022	Evening Peak	46.2	1.0

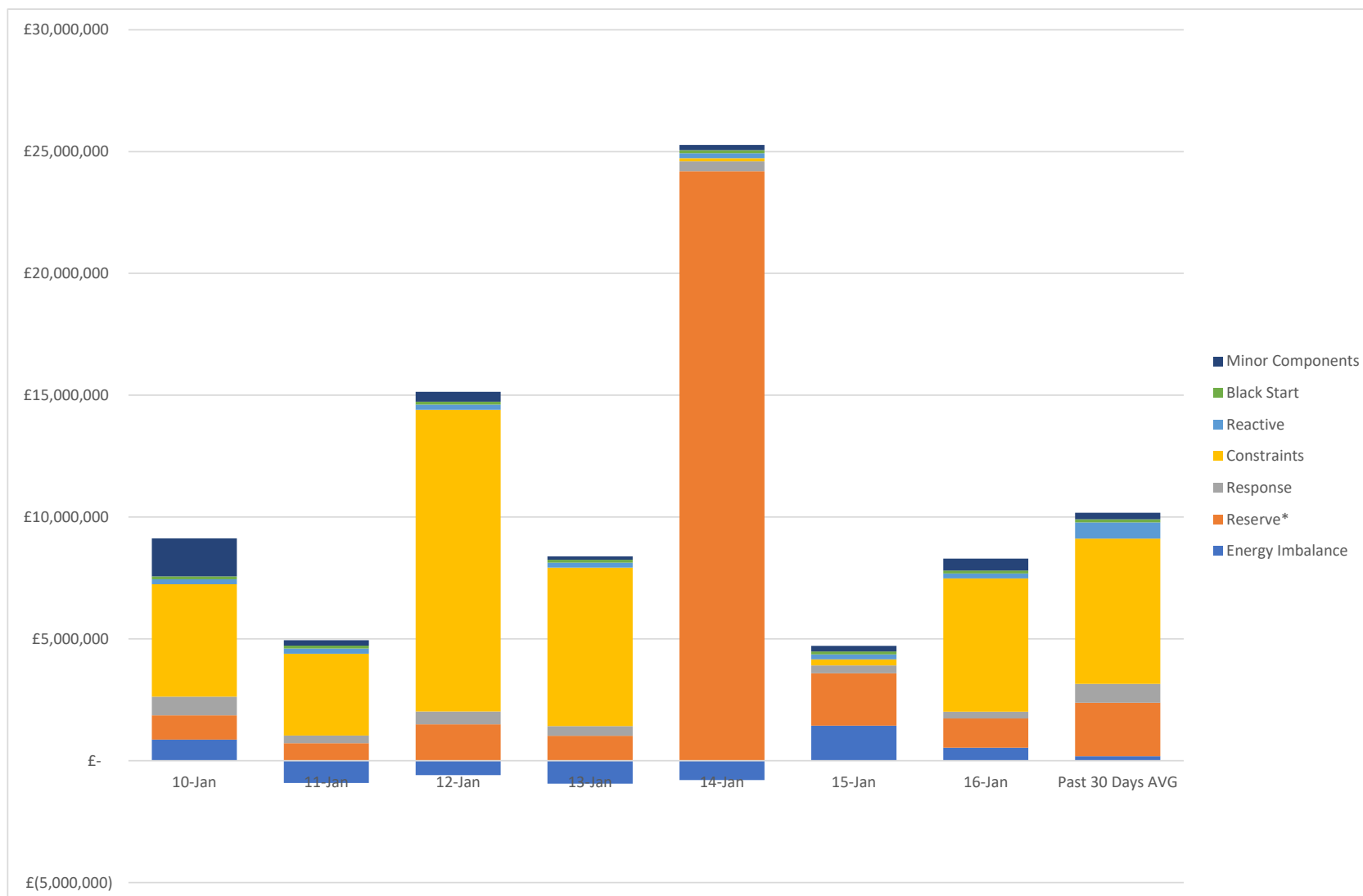
ESO Actions | Thursday 13 January Peak



ESO Actions | Sunday 16 January Minimum



Transparency | Costs for the last week



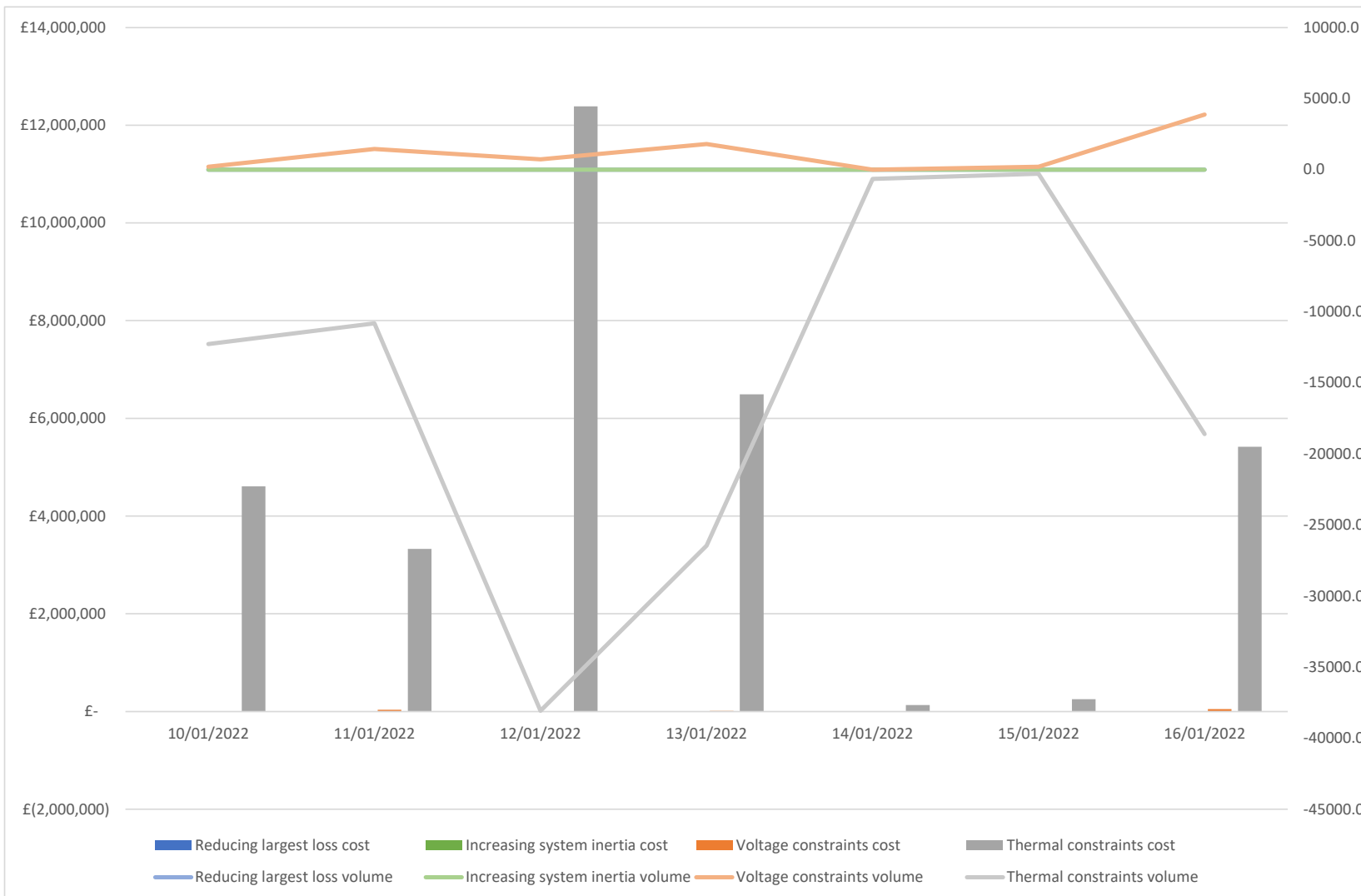
Wednesday 12th and Friday 14th were the most expensive days with daily costs of nearly £15m and £25m respectively..

Wednesday the main drive behind the high spend day was the costs associated to constraint action. Thursday, the main component was the operating reserve costs.

The other days of the week, daily costs remained below or around £10m.

Past 30 Days Average added

Transparency | Constraint cost breakdown



Thermal

Throughout all days, actions were required to manage thermal constraints, with little intervention on Friday and Saturday.

Voltage

Action taken to synchronise generation to meet voltage requirements on Tuesday and on Sunday.

Managing largest loss for RoCoF

No intervention required to manage largest loss on interconnectors.

Increasing inertia

No intervention required to increase minimum inertia.

<https://data.nationalgrideso.com/balancing/constraint-breakdown>

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 19 January 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.

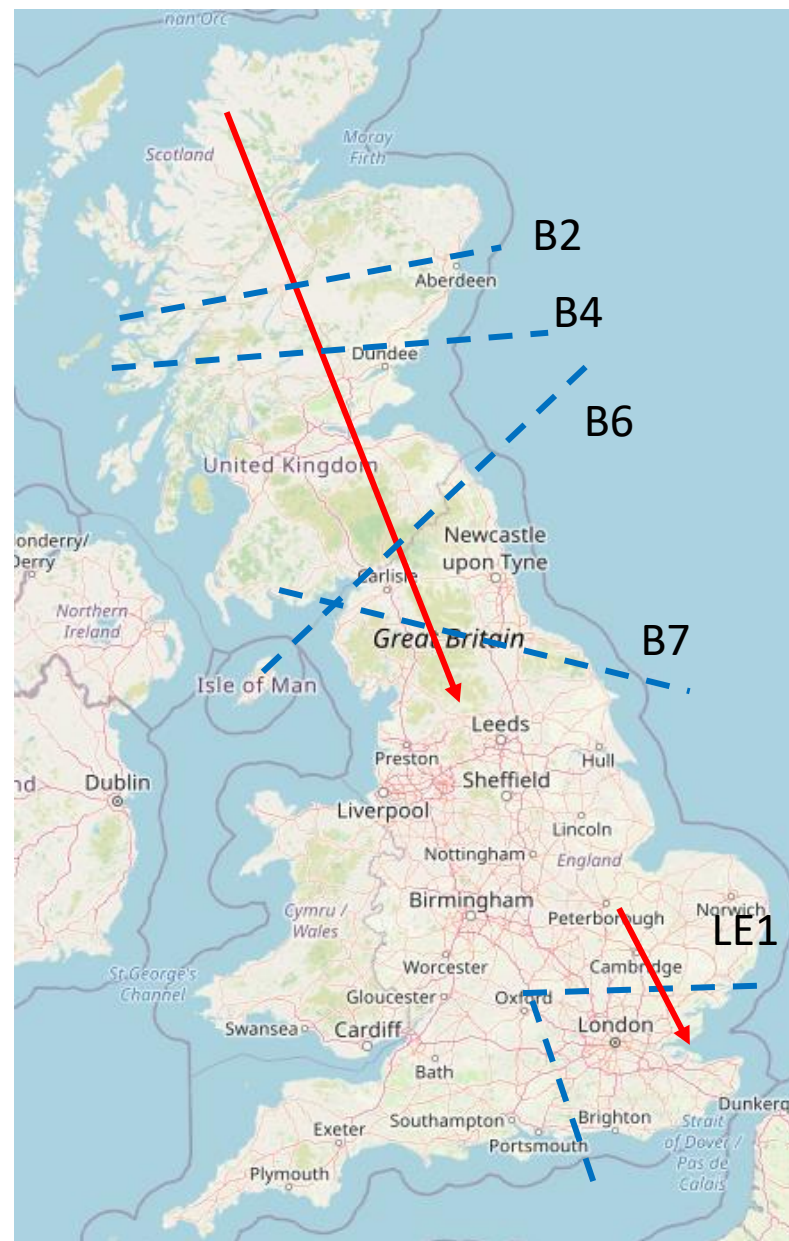
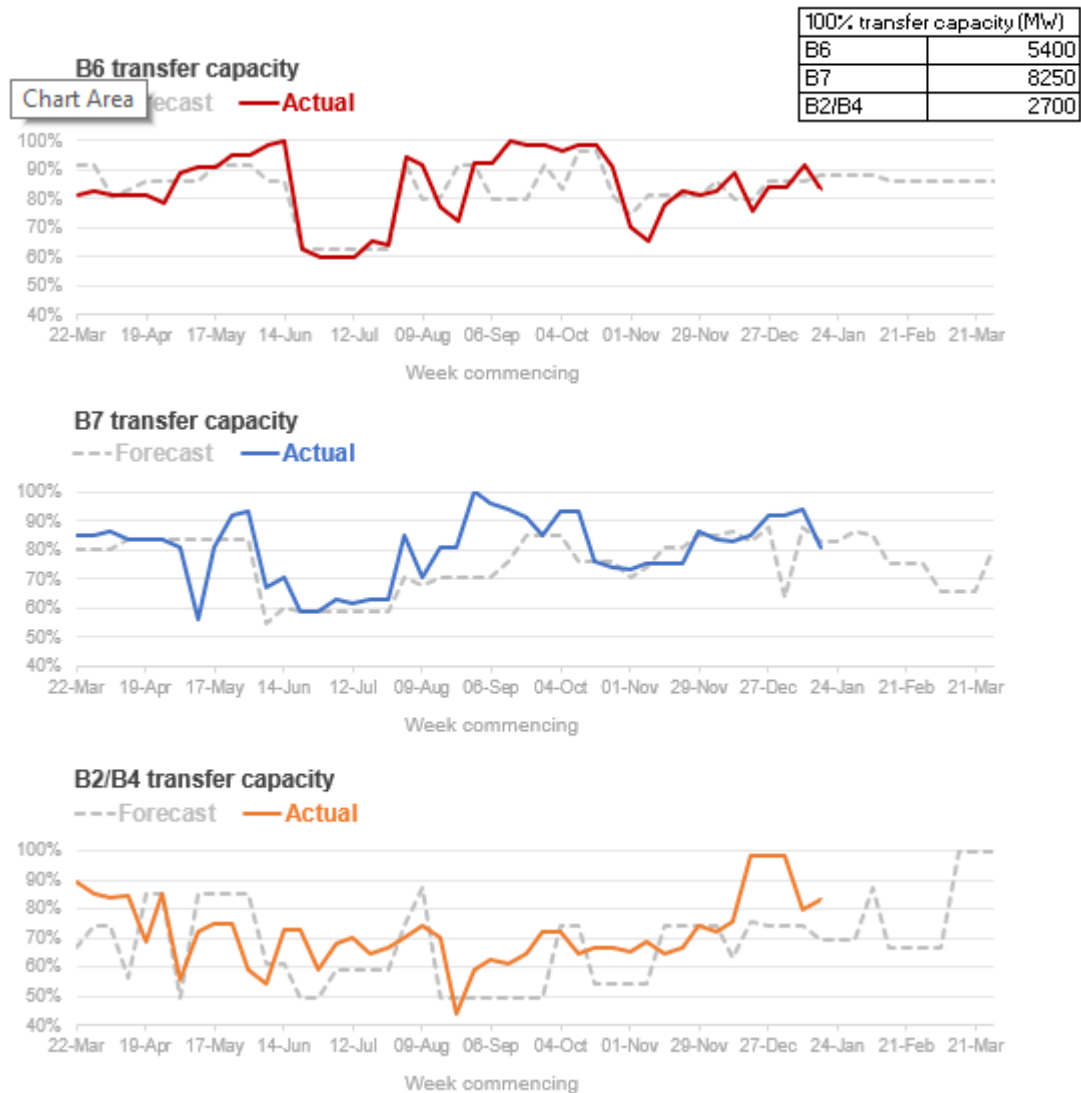
For higher surplus values, margins are expected to be adequate and there is a low likelihood of the ESO needing to use its tools. In such cases, we may even experience exports to Europe on the interconnectors over the peak depending on market prices.

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, but slightly tighter on Monday 24 January.

Day	Date	Notified conventional generation (MW)	Wind (MW)	Interconnector availability (MW)	Peak demand (MW)	Indicative surplus (MW)
Thu	20/01/2022	43618	6715	3900	46335	4905
Fri	21/01/2022	43918	6372	3900	44362	5396
Sat	22/01/2022	42523	4370	3900	40849	5525
Sun	23/01/2022	43578	4259	3900	41521	5546
Mon	24/01/2022	45436	2344	3900	46429	1498
Tue	25/01/2022	45538	3262	3900	45867	2729
Wed	26/01/2022	45331	3534	3900	46152	2685

Transparency | Constraint Capacity



BSUoS Forecasting



BSUoS Forecasting Update

Balancing Services Use of System (BSUoS) charges are a tariff on users of the network to recover the costs we incur balancing the system.

We are committed to continually improving our forecasting and to provide greater insight to the market around changing BSUoS costs.

- We have been publishing more detailed BSUoS forecasts in recent years but we recognise that recently these have not been providing sufficient insight into costs and ultimately the charges system users will face.
- In our 5 point plan to manage constraints on the system we committed to improve transparency and insight into our forecasts of the costs incurred managing flows on the network.

To address these challenges we will publish a forecast based on a new improved methodology.

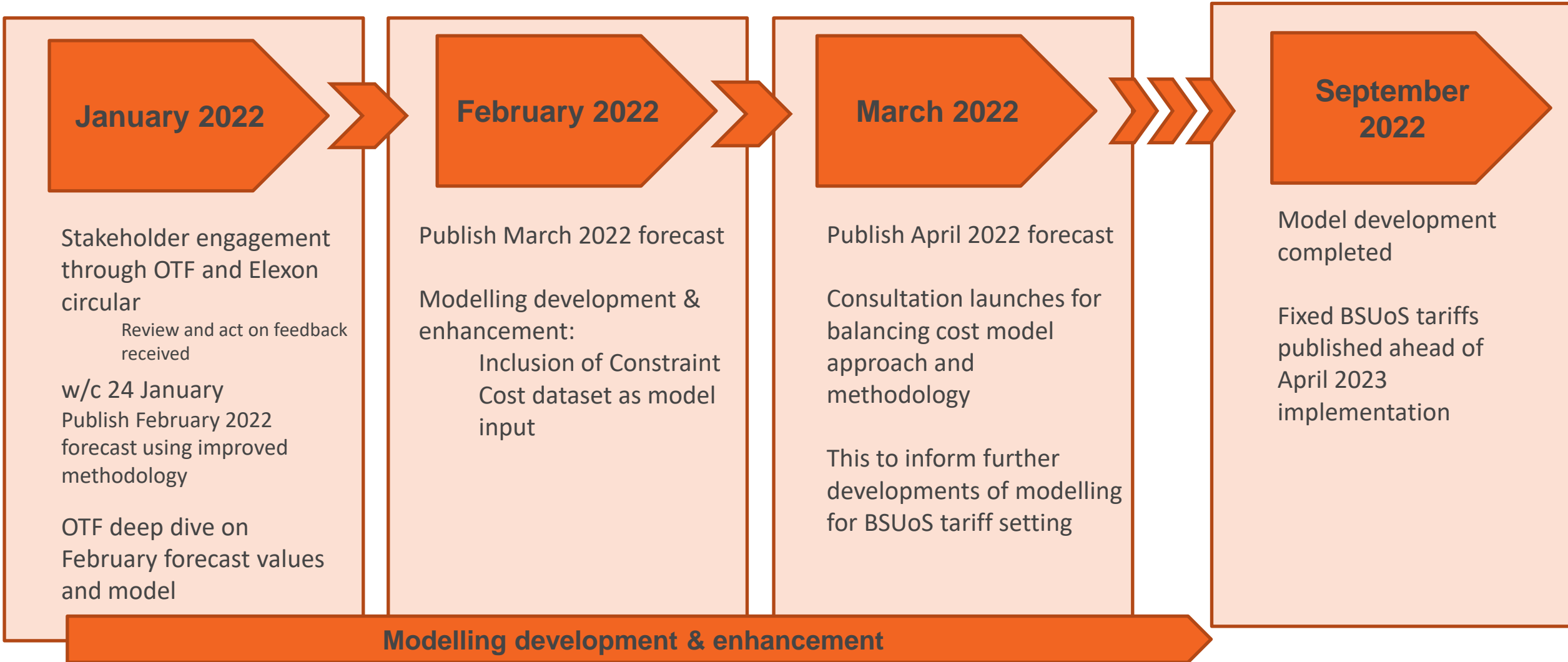
- This model moves away from the previous BSUoS forecasting linear model to a more comprehensive probabilistic model.
- It takes advantage of improved data inputs and we believe it will provide better insight into BSUoS costs over both short and longer timescales.
- Additionally in February we are planning to use our 24month ahead Constraint Limit dataset. This will be integrated into our new model for forecasting, providing increased accuracy in our model inputs.

Our aim is to do this in a way that gives clarity and helps our customers and other users of the forecast.

- Your feedback today will help us in our communications and allow us to present the forecast next week taking into account your expectations.

We would note that CMP381 has been approved from the 17th January 2022. This will place a cap of £20/MWh on BSUoS charges with any amounts above that being rolled into the 2022/23 charging year up to a maximum of £200m.

BSUoS Forecast Improvement Timescales



For any feedback on our approach and timescales for change please get in touch: .box.NC.Customer@nationalgrideso.com

Enabling the transformation to a sustainable energy system: Our RIIO-2 BP2 webinar series

Webinars	Date & Times
Webinar 1: A look ahead to 2023 and beyond: our journey to enabling the transformation to a sustainable energy system	Monday 24th January (13:00-14:15)
Webinar 2: Looking ahead to 2023 and beyond: Control centre operations	Wednesday 26th January (13:00-14:15)
Webinar 3: Looking ahead to 2023 and beyond: Market development, transactions and our role in Europe since Brexit	Thursday 27th January (13:00-14:15)
Webinar 4: Looking ahead to 2023 and beyond: Our innovation priorities	Thursday 3rd February (13:00-14:15)
Webinar 5: Looking ahead to 2023 and beyond: Our commitment to providing open data and transparency	Monday 7th February (13:00-14:15)
(Recently added) Webinar 6: Looking ahead to 2023 and beyond: Enhancing our regional capability to meet net zero	Thursday 10th February (13:30 -14:45)
(Recently added) Webinar 7: Looking ahead to 2023 and beyond: Network development	Tuesday 22nd February (14:00-15:15)

The RIIO-2 Price Control:



Purpose of the webinars:

To share with stakeholders our initial thoughts for what could be new / materially changed from our 5-year business plan (covering 2021-2026), with respect to the RIIO-2 BP2 period.

Sign up to our webinars [here](#) (This link will take you to our “Get Involved” ESO web page, where you can sign up to each of the webinars separately via Eventbrite)

Q&A

After the webinar, you will receive a link to a survey. We welcome feedback to understand what we are doing well and how we can improve the event ongoing.

Please ask any questions via Slido (code #OTF) and we will try to answer as many as possible now. If we are unable to answer your question today, then we will take it away and answer it at a later webinar.

Please continue to use your normal communication channels with ESO.

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

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

