



ESO Operational
Transparency Forum
10th Nov 2021

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.**

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 and outlook
- Costs for last week
- Constraints

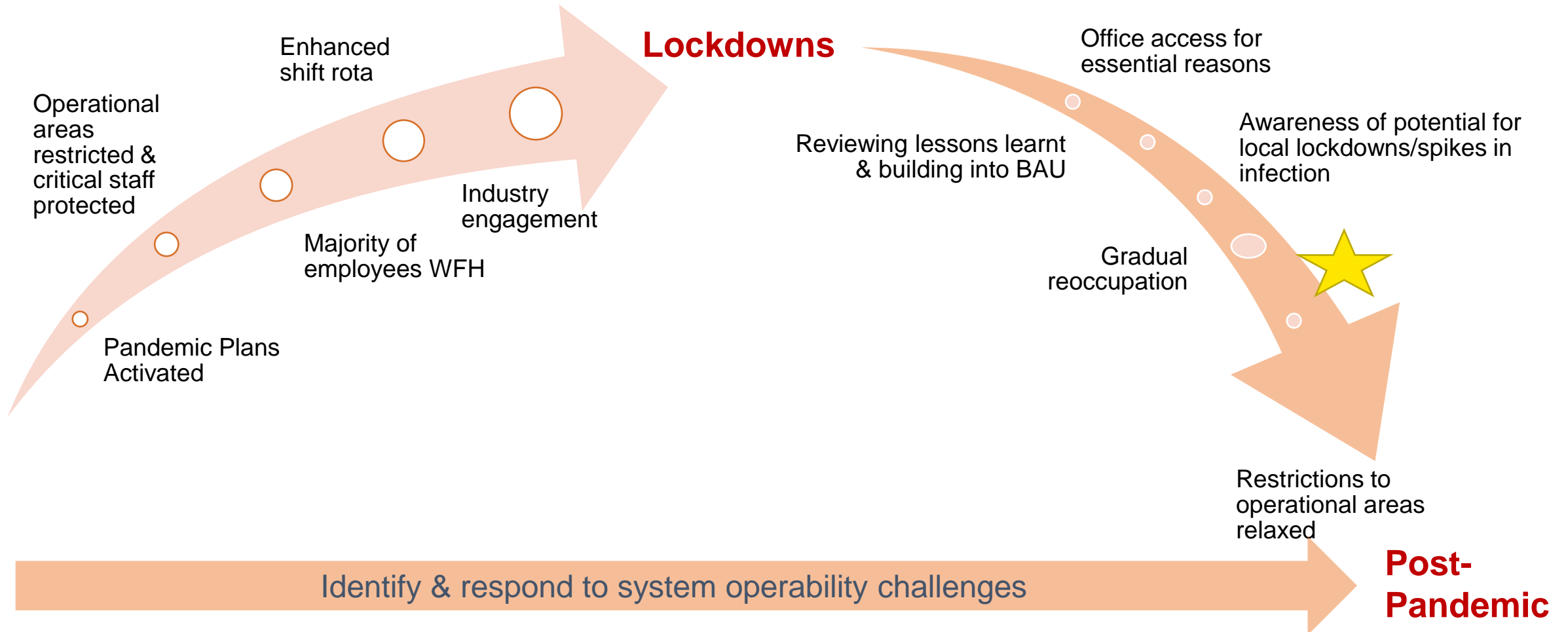
Focus Areas

Market Monitoring Team

Offshore Transmission Network Review

Dynamic Moderation and Dynamic Regulation

Protecting critical staff to maintain critical operations



Questions outstanding from last week

Q: In a previous OTF there was comment on the numerous, large NTC restrictions imposed on the interconnectors with SEM, by the SEM system operators. NGESO was looking into the basis for these measures and what the SOs are allowed to do. These restrictions continue. What update is available, please?

A: The Irish Single Electricity Market Operators, EirGrid and SONI, have been dealing with very challenging system conditions (e.g. unexpected generator outages, sustained low wind conditions). This has been compounded by the exceptionally high GB market prices leading to exports to GB from Ireland. EirGrid has informed us that they have experienced conditions where for some periods, the scheduled cross border flows would have led to security issues in Ireland and therefore NTCs (Net Transfer Capacity) have been applied. NGESO has been working with the Irish SOs to consider whether the future use of NTCs can be reduced in terms of frequency and magnitude. We are exploring both improvements to current operational processes as well as potential new SO-SO tools

Q: Please could you give some details around the high Sep'21 operating reserve costs? Was this an SO-SO trade?

A: We had several high cost days in September where the cost of operating reserve to meet our margin requirements significantly increased and offer prices went to £4000/MWh.

Q: Why were costs so high yesterday (£45m) in the BM? Were any costs incurred to support of systems ?

A: (For 2nd November) Margins were reduced for evening peak period yesterday compared to previous days. It was necessary to take offers in the range of £3000 - £4000/MWhr on several machines to maintain margin requirements.

Q: What do minor components in the cost of the week chart include?

A: Minor components costs include the following: BM actions, which are not easily accounted for in the other reported categories; other general costs: trading option fees, bank charges, sterling adjustments; Non-Delivery and Reconciliation

Questions outstanding from last week

Q: What was the reason for ESO accepting Bids on wind in the waterfall diagram for the peak last week?

A: The waterfall shows the change between the forecast and outturn so they may not have been actions taken by the ESO.

Q: Should the detail of the Scotland voltage oscillations event have been recorded in the Significant Incidents report (now published monthly by the ESO following approval of GC105)

A: The oscillations were not reported based on the GC105 requirements, as they did not meet the definition for the reporting requirements.

Q: In the November MIR there is an estimate for DC High requirements. However, in the Response Requirements webinar 26/10 it was mentioned that there will be no DCH requirements in December because NSL is still at reduced capacity. Does that mean that there will not be a requirement for Nov after all?

A: In the requirements webinar we sought to take industry through the process on how we calculate our requirements and the sensitivities that need to be taken into consideration. This can change on a daily basis. The MIR report published in October gives an indicative view of potential ranges we might expect to see over the following month. This stated there was likely to be a zero requirement for 68% of the time.

Q: Do you know on which date the Pathfinder 3 will launch please ? we heard November

A: November 2021 is the current published date for Phase 3 launch.

Questions outstanding from last week

Q: Bidding off wind has now increased/ doubled from c.£30m/week to £60m/week! This is extremely expensive and will this increase with NZ costing consumers....er £ms? Also are these costs included in Renewable energy costs and the subsidies (ROC) they receive?

A: We are acutely aware of the cost of curtailing wind and have a number of initiatives underway to look to reduce this cost prior to enduring network reinforcement. For example we will shortly be announcing the results from the Constraints Management Pathfinder where providers are competing to provide a post fault intertrip service across the B6 boundary – essentially helping increase boundary capability and reducing necessary curtailment. The bids that we receive from windfarms will be shaped by the value of the ROCs that each station receive with providers looking to recover this lost revenue via their bid prices.

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.

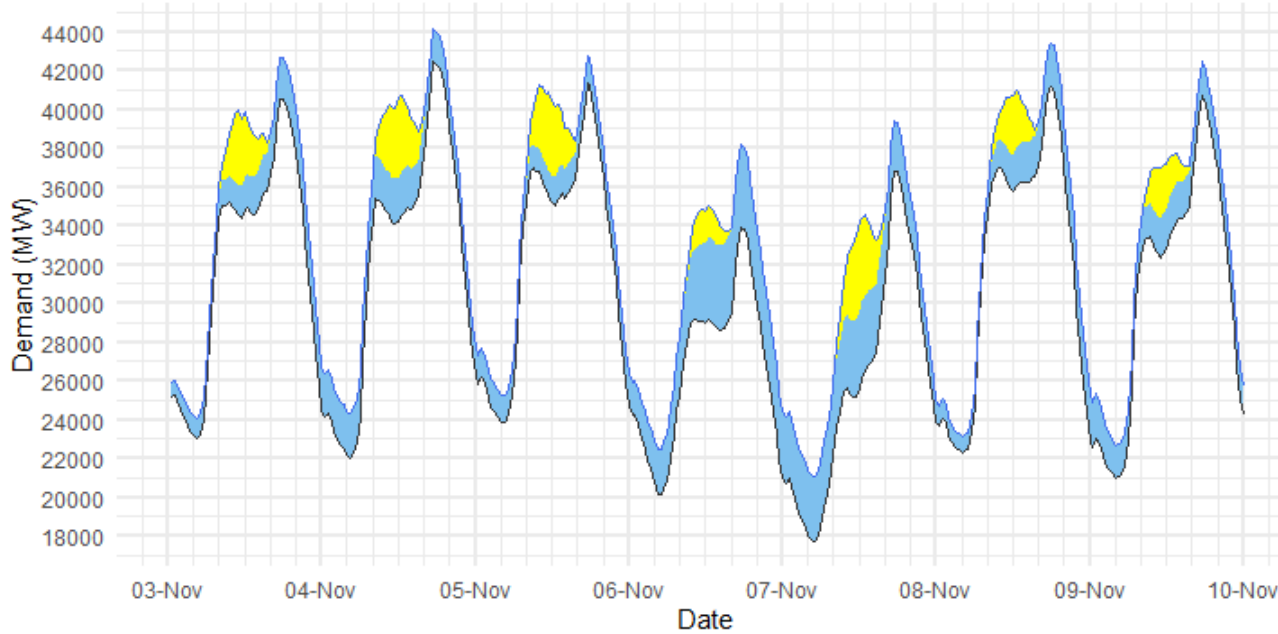
We have the following deep dives planned:

January

Balancing Services Adjustment Data (BSAD) Overview

Demand | Last 7 days outturn

ESO National Demand outturn 03-09 November 2021



Renewable type
 Distributed_PV
 Distributed_Wind

Demand type
 Estimated_Total_Demand
 National

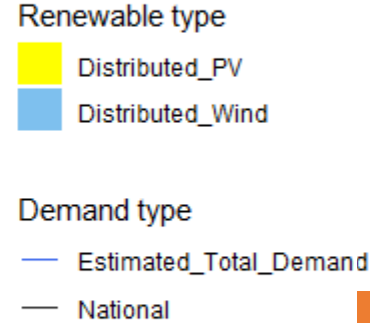
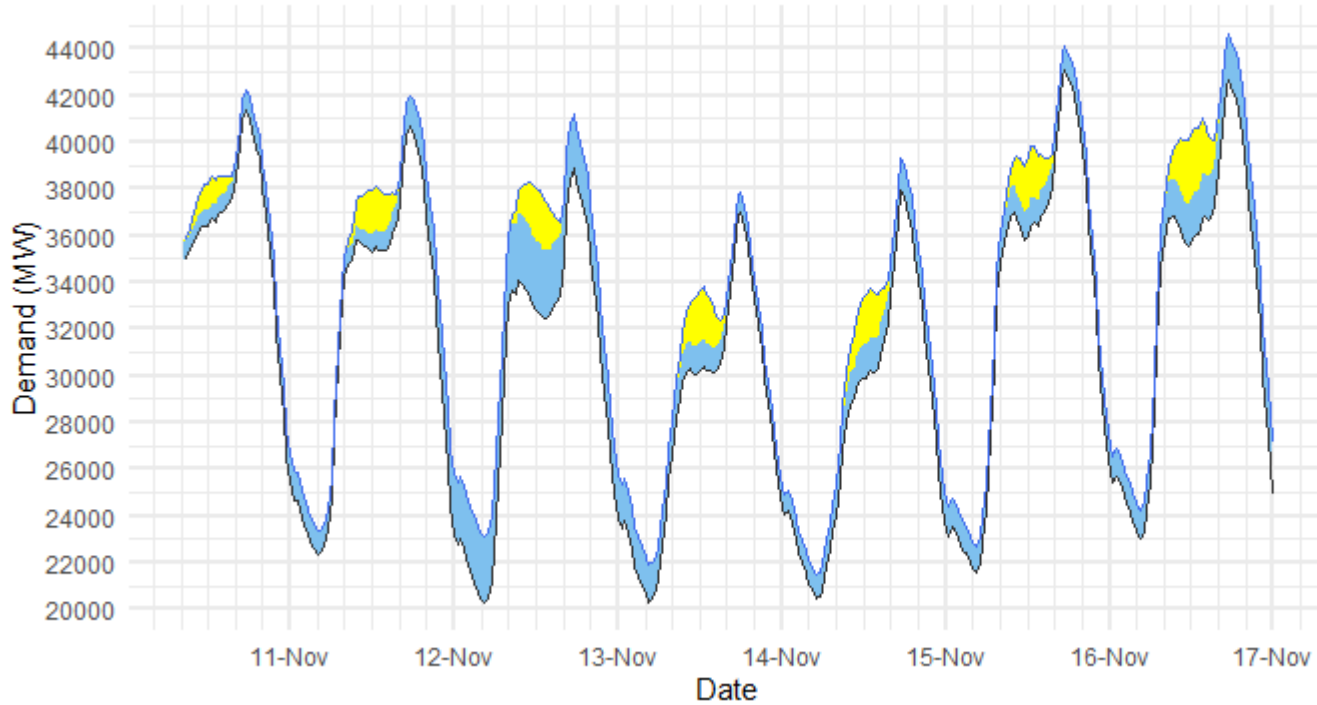
Date	Forecasting Point	FORECAST (Wed 03)		OUTTURN			
		National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Triad Avoidance est. (GW)	N. Demand adjusted for TA (GW)	Dist. wind (GW)
03 Nov	Evening Peak	41.2	2.2	40.5	0.0	40.5	2.1
04 Nov	Overnight Min	21.3	2.3	22.0	n/a	n/a	2.3
04 Nov	Evening Peak	42.1	1.8	42.4	0.0	42.4	1.7
05 Nov	Overnight Min	24.1	1.6	23.9	n/a	n/a	1.4
05 Nov	Evening Peak	40.9	1.5	41.3	0.0	41.3	1.4
06 Nov	Overnight Min	21.5	2.3	20.1	n/a	n/a	2.4
06 Nov	Evening Peak	34.7	3.8	33.9	0.0	33.9	4.2
07 Nov	Overnight Min	18.7	3.6	17.7	n/a	n/a	3.4
07 Nov	Evening Peak	36.4	3.1	36.8	0.0	36.8	2.6
08 Nov	Overnight Min	21.9	1.7	22.3	n/a	n/a	0.9
08 Nov	Evening Peak	41.9	1.8	41.1	0.0	41.1	2.3
09 Nov	Overnight Min	22.1	2.2	21.0	n/a	n/a	1.7
09 Nov	Evening Peak	41.2	2.2	40.7	0.0	40.7	1.7

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.

Demand | Week Ahead

ESO Demand forecast for 10-16 November 2021



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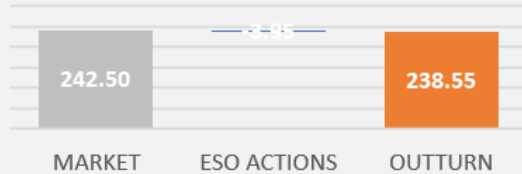
		FORECAST (Wed 10)	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)
10 Nov 2021	Evening Peak	41.4	0.9
11 Nov 2021	Overnight Min	22.3	1.0
11 Nov 2021	Evening Peak	40.7	1.3
12 Nov 2021	Overnight Min	20.3	2.8
12 Nov 2021	Evening Peak	38.9	2.4
13 Nov 2021	Overnight Min	20.3	1.6
13 Nov 2021	Evening Peak	37.0	0.9
14 Nov 2021	Overnight Min	20.4	1.0
14 Nov 2021	Evening Peak	38.0	1.4
15 Nov 2021	Overnight Min	21.5	1.1
15 Nov 2021	Evening Peak	43.1	1.1
16 Nov 2021	Overnight Min	23.0	1.3
16 Nov 2021	Evening Peak	42.6	2.0

ESO Actions | Thursday 4 November Peak

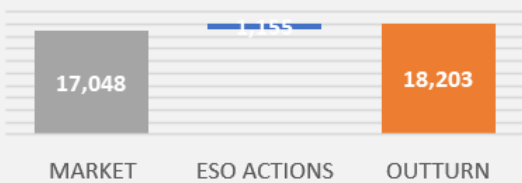
Date: 04/11/2021

SP: 35

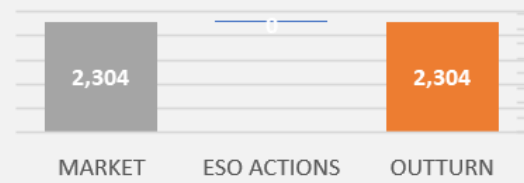
Carbon Intensity (gCO₂/kWh)



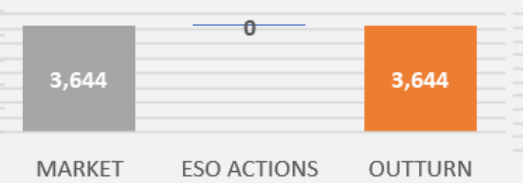
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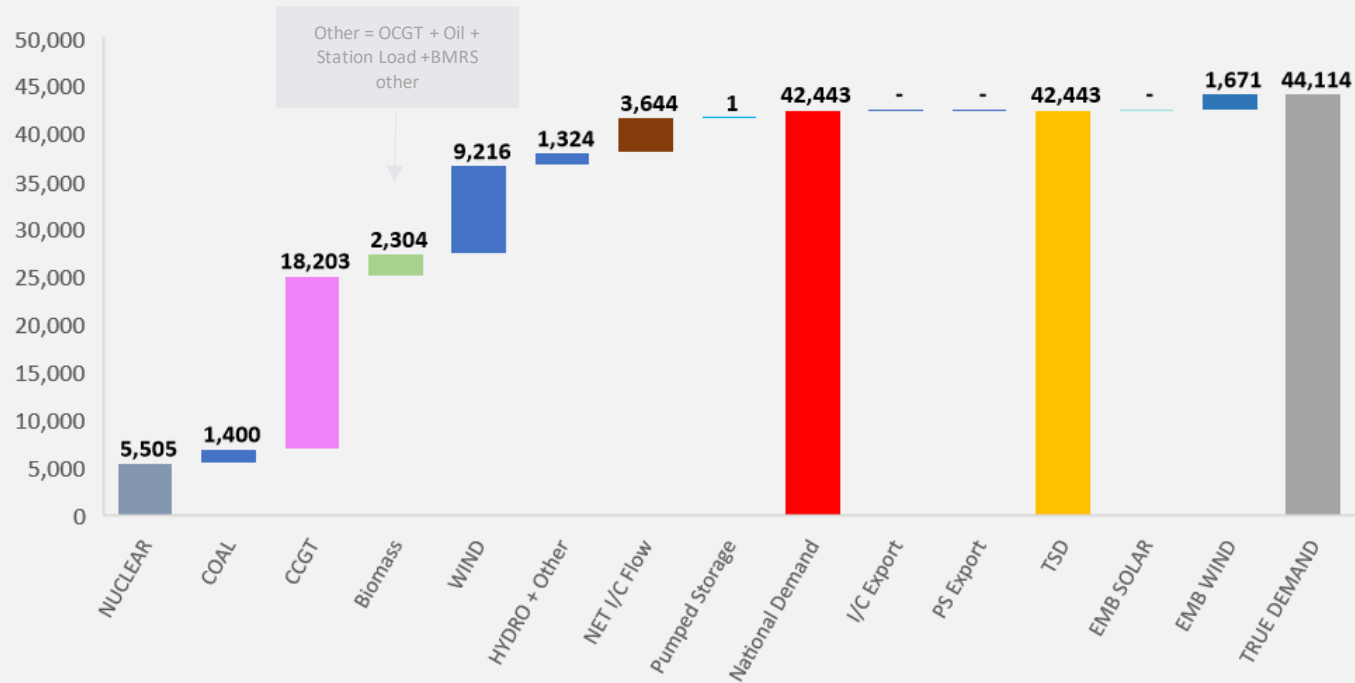
Biomass



I/C



WIND

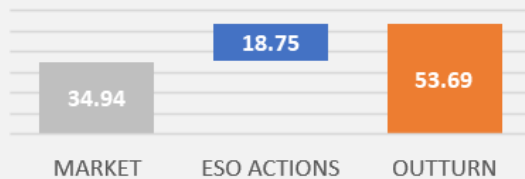


ESO Actions | Sunday 07 November Minimum

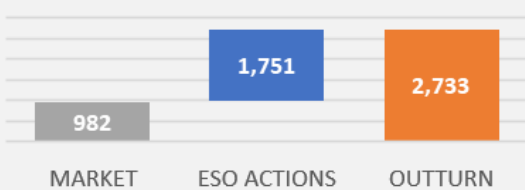
Date: 07/11/2021

SP: 10

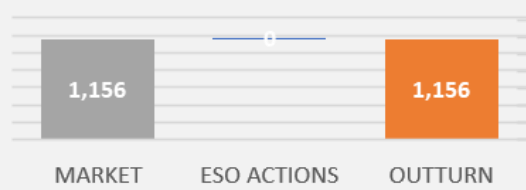
Carbon Intensity (gCO₂/kWh)



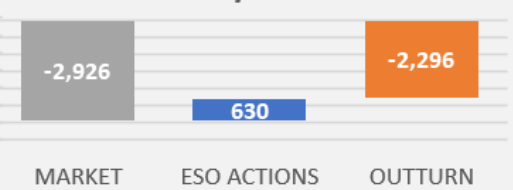
CCGT



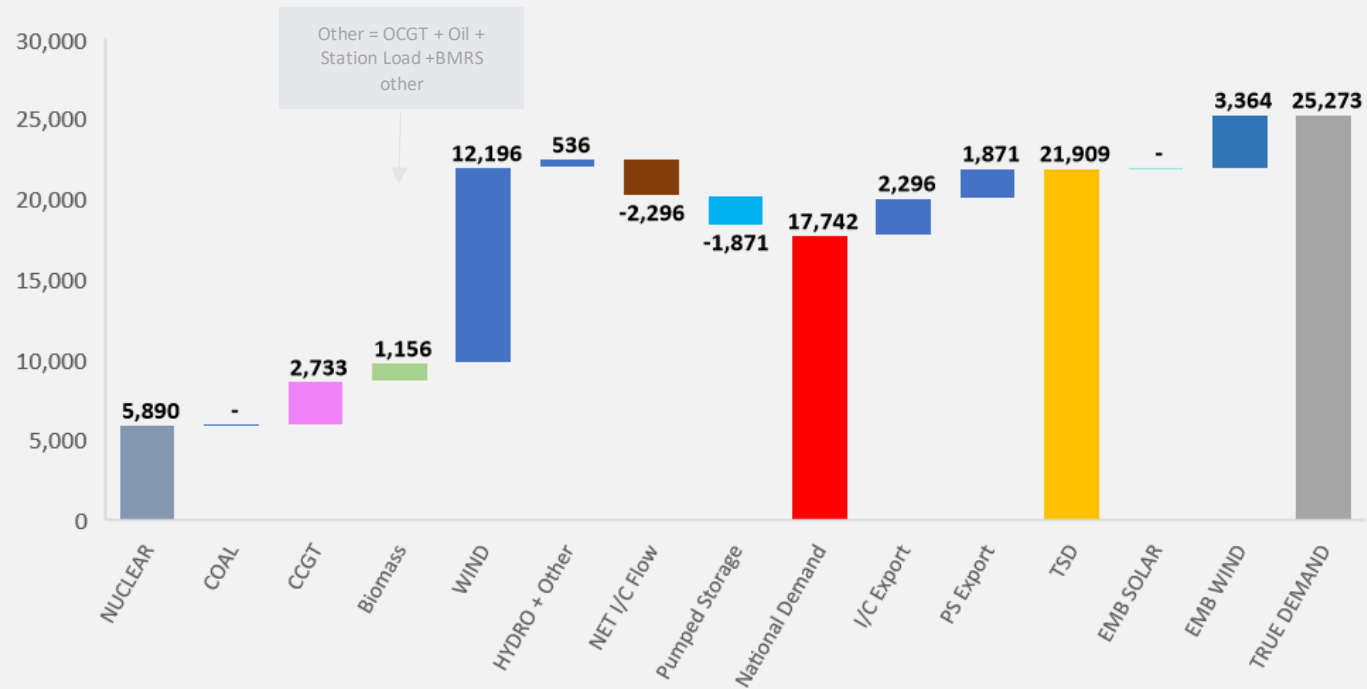
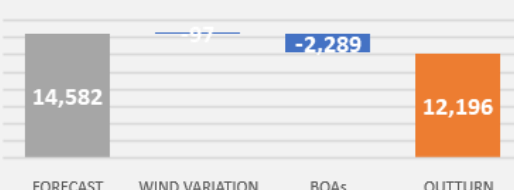
Biomass



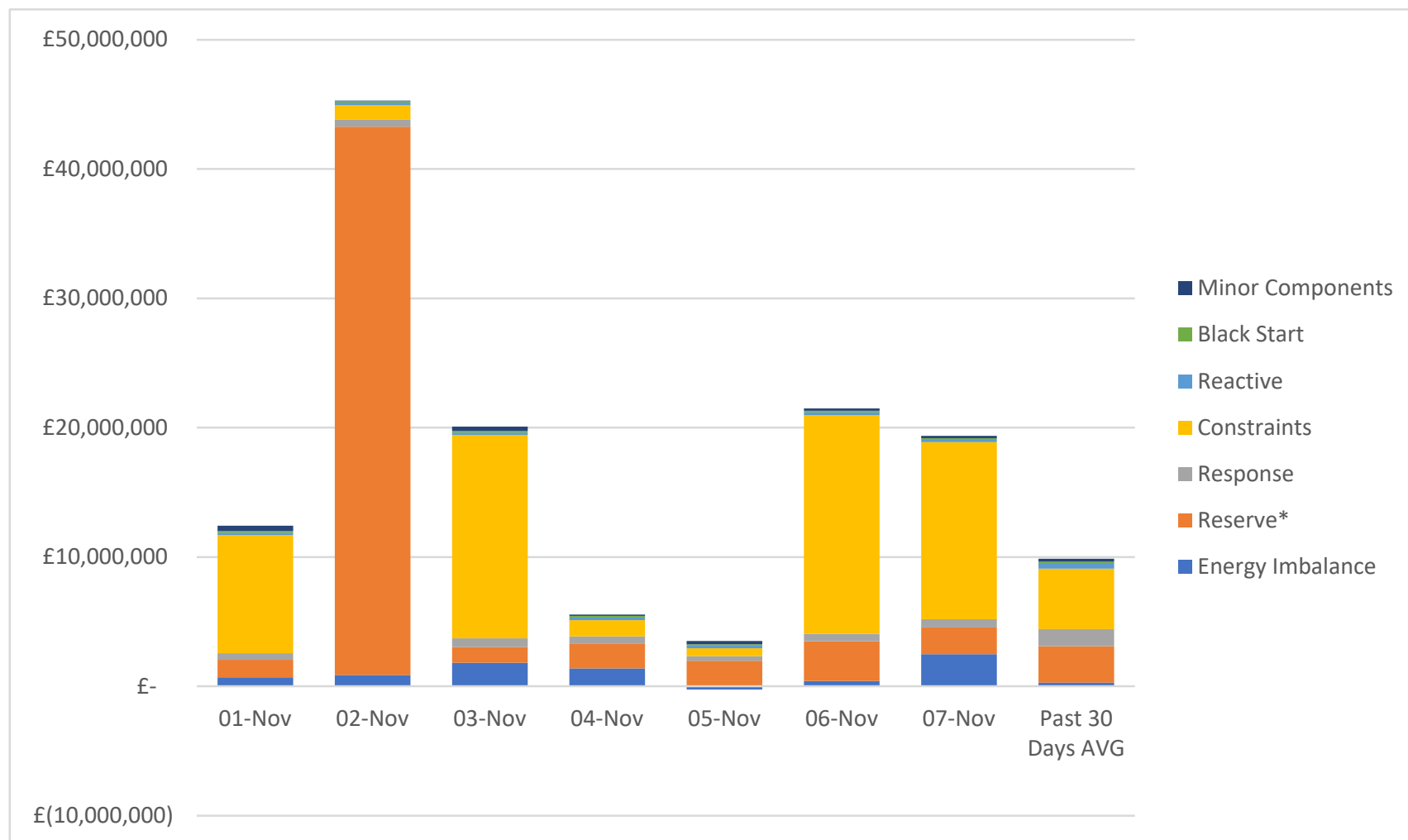
I/C



WIND



Transparency | Costs for the last week



Tuesday 2nd was the most expensive day with daily spend of over £42m. This was due to expensive actions taken to meet margin requirements.

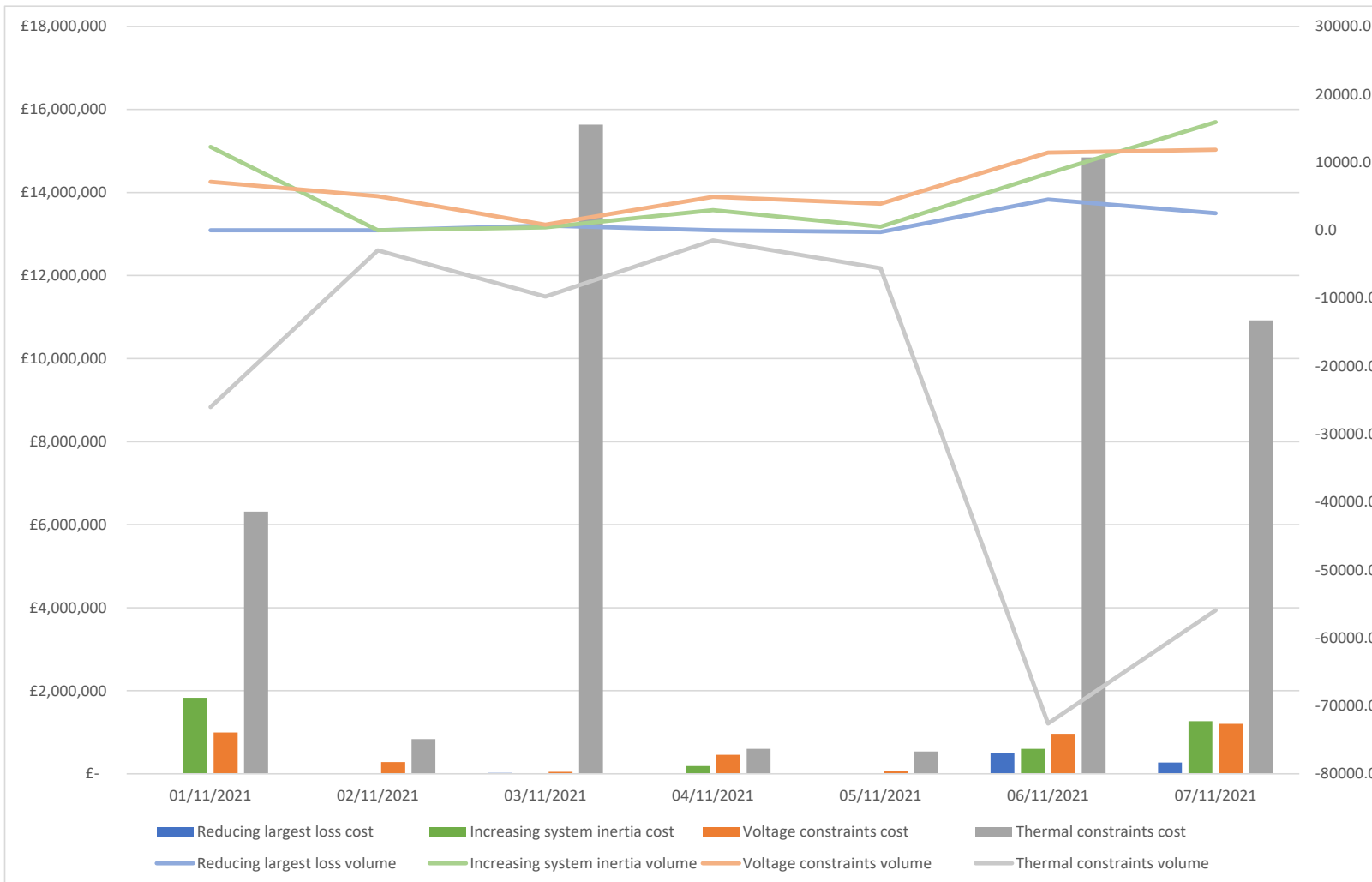
Constraints actions were the main drive for other high spend days Wed 3rd, Sat 6th, Sun 7th when daily costs were around £20m each. This was due to high wind level requiring high volume of BM actions to buy off generation to manage thermal constraint.

Thu 4th and Wed 5th Daily costs were below £5m.

Apart from Tuesday, other category costs were relatively stable throughout the week

Past 30 Days Average added

Transparency | Constraint cost breakdown



Thermal

Wednesday, Friday and Saturday, high volume of BM actions required to manage thermal constraints.

Voltage

Action required to synchronise generation to meet our voltage requirements throughout the week

Managing largest loss for RoCoF

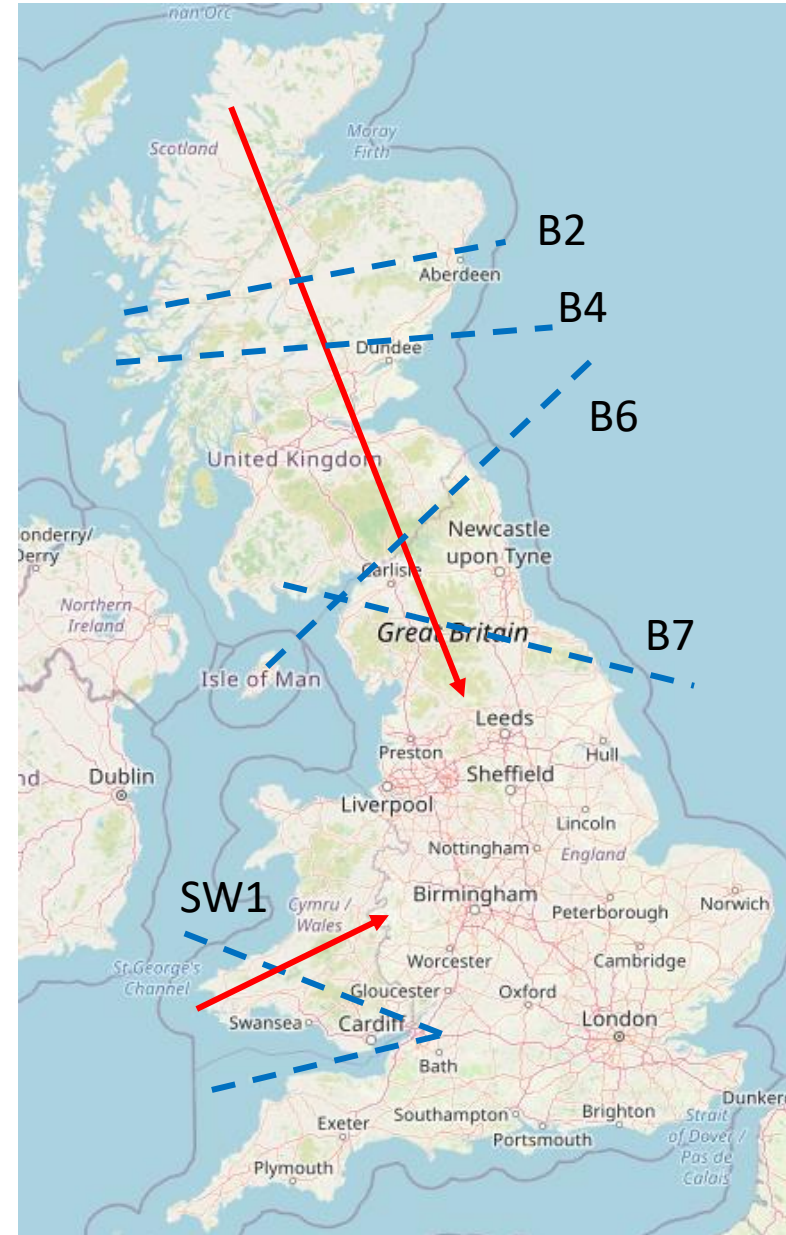
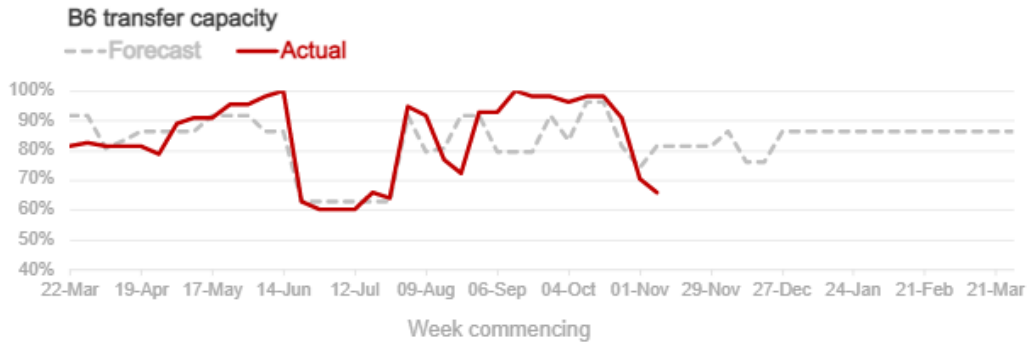
action required to manage largest loss on interconnectors on Saturday and Sunday.

Increasing inertia

Intervention required to increase minimum inertia between Saturday and Sunday

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

Transparency | Constraint Capacity



Market Monitoring Team

Market Monitoring

We have a licence condition¹ to monitor balancing services markets

- As a Persons Professionally Arranging Transactions (PPAT) ESO have a new obligation to monitor the market for Market Manipulation and Insider Trading
- In response to this licence condition we have created a new Market Monitoring team
- We will be looking for examples of grid code breaches, insider trading and market manipulation in balancing services including the balancing mechanism (BM)
- This applies to both external and internal transactions on the BM and through other balancing services.
- We are **not involved in enforcement actions** or decisions to progress to an investigation but will report suspicious activities to OFGEM



Claire



Sophie



Chris



Nigel



Asha



Sam

MarketReporting@nationalgrideso.com

¹C28 4(j): https://www.ofgem.gov.uk/sites/default/files/docs/2021/03/eso_roles_guidance_2021-23_1.pdf

Market Monitoring

What will we review?

All products and services procured by NGENSO including acceptance through the balancing mechanism will be monitored for potential position based and information based manipulation.

What will we look for?

- Potential use of technical declared limitations to manipulate control room decision making
- Potential breaches of the transmission constraint licence condition
- Excessively high prices when in a monopolistic position
- Insider information as a result of trades or acceptances to reposition or change pricing on other assets
- Internal ESO market manipulation
- Any activities reported to us through internal or external channels will be reviewed

Let us know any additional activities you believe we should review

OFGEM Open letter on dynamic parameters:

https://www.ofgem.gov.uk/sites/default/files/docs/2020/09/open_letter_on_dynamic_parameters_and_other_information_submitted_by_generators_in_the_balancing_mechanism.pdf

OFGEM Transmission constraint licence condition guidance:

https://www.ofgem.gov.uk/sites/default/files/docs/2012/10/tclc_guidance_0.pdf

Acer guidance on the application of REMIT:

https://documents.acer.europa.eu/en/remit/Documents/ACER_Guidance_on_REMIT_application_6th_Edition_Final.pdf

Section 5 – Prohibition on insider trading

Section 6 – Prohibition on market manipulation and attempted market manipulation

Section 8 – Obligations of Persons Professionally Arranging Transactions

Market Monitoring

We want to work with market participants

- We will listen to and take seriously any reports of market manipulation or insider trading reported to us: marketreporting@nationalgrideso.com
- We welcome any thoughts you have on incidents we should review or processes we should adopt or change
- We would like to work with you to improve the data submitted on the BM
- We will be contacting all BM participants by email to establish appropriate contacts in your organisations and give you further opportunity to feedback
- We would like to invite you to a workshop to assess how you would submit data, the processes we will be using and address any other concerns you may have

Register for a workshop



Thursday 9th December 14:00-15:00

Offshore Transmission Network Review (OTNR): Offshore Co-ordination



Offshore Coordination Project

Offshore power and its associated infrastructure is a key part of the Government’s ambition for 40GW of offshore wind by 2030 as well as net zero greenhouse gas emissions by 2050. The ESO Offshore Coordination Project forms part of the Department of Business, Energy and Industrial Strategy (BEIS) Offshore Transmission Network Review (OTNR).

Our workstreams feed into the OTNR workstreams and encompass technical and commercial work across three timeframes: Early Opportunities for coordination; Pathway to 2030; and the Enduring offshore regime; with an overarching Strategy workstream.

Strategy		
Develop long term ESO Offshore Coordination objectives, ensure all workstreams align with strategic direction from OTNR, agree ESO role in the enduring offshore transmission regime.		
Early Opportunities (connections between 2025 and 2030)	Pathway to 2030 (how to achieve 40GW offshore wind with as much coordination as possible by 2030)	Enduring Regime (post 2030)
Identify and deliver early coordination opportunities for inflight connections, to support the transition between the current state and an enduring integrated offshore regime.	Deliver a high-level holistic design onshore and offshore and progress assessment and changes to industry codes, standards and processes that are required to deliver the Pathway to 2030 regime.	Publish and deliver an industry-agreed roadmap, establishing the necessary changes to codes and frameworks to facilitate offshore integration. Establish the approach to network planning in the enduring regime.
Multi-Purpose Interconnectors (MPIs)		
The MPI workstream is currently only applicable to Early Opportunities and Enduring Regime		

Offshore Coordination: Codes Change Workshops

- Since Ofgem published an [OTNR consultation](#) in July 2021, outlining the various possible Early Opportunities concepts, ESO have started looking into the 6 concepts to review the enablers and challenges in relation to codes, across the two workstreams of Early Opportunities and Pathway to 2030.
- We would like to engage and work with the industry on the possible challenges to Offshore Coordination in the codes and to prioritise topics that require detail discussion and assessment.
- We are holding a series of workshop with the following topics:

Grid Code and SQSS:	23rd November (PM)	CUSC – other sections:	29th November (PM)
CUSC section 14:	25th November (PM)	STC:	30th November (AM)
CUSC section 15:	29th November (AM)		

The purpose of the session is to:

- Engage and work with the industry on identifying and prioritising the challenges to the codes.
- Share our current thinking on the impacts to the codes, that may be subject to the outcome of Ofgem’s OTNR consultation.
- To identify any code modifications that may be required to enable any of the 6 concepts.

Please register interest [here](#) or by emailing box.OffshoreCoord@nationalgridESO.com

Dynamic Moderation and Dynamic Regulation

- **Response and Reserve webinar last week** – shared the service design
 - Webinar recording and slides can be found on the DM and DR pages on the ESO website
- **Launch EBR Art. 18 Consultation** – 15 November
- **Markets Day** – 18 November

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.

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