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- Click 'Turn on live captions'

NESO Operational Transparency Forum

6 August 2025

NESO
National Energy System Operator

Introduction | Sli.do code #OTF

To ask questions live & give us post event feedback go to Sli.do event code #OTF

- **Ask your questions as early as possible** as our experts may need time to ensure a correct answer can be given live.
- **Please provide your name or organisation**. This is an operational forum for industry participants therefore questions from unidentified parties will not be answered live. If you have reasons to remain anonymous to the wider forum, please use the advance question or email options below.
- **The OTF is not the place to challenge the actions of individual parties** (other than the NESO), and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: marketreporting@neso.energy
- **Questions will be answered in the upvoted order whenever possible**. We will take questions from further down the list when: the answer is not ready; we need to take the question away or the topic is outside of the scope of the OTF.
- **Sli.do will remain open until 12:00**, even when the call closes earlier, to provide the maximum opportunity for you to ask questions. After that please use the advance questions or email options below.
- **All questions will be recorded and published.** Questions which are not answered on the day will be included, with answers, in the slide pack for the next OTF.
- **Ask questions in advance** (before 12:00 on Monday) at: https://forms.office.com/r/k0AEfKnai3
- **Ask questions anytime** whether for inclusion in the forum or individual response at: box.nc.customer@neso.energy

Stay up to date on our webpage: https://www.neso.energy/what-we-do/systems-operations/operational-transparency-forum (OTF Q&A is published with slide packs)

Note: to access previous OTF webinars from Slido click on the three lines to the left of forum title

Future deep dive / focus topics

Slido code #OTF

Today's Deep Dive/Focus Topics

Overview of Operational Metering – 6 August

Future

Balancing Costs: July costs – 20 August

Please note: during the summer holiday season this live forum will take place alternate weeks. There will be **no Operational Transparency Forum on 30 July, 13 August and 27 August**. Normal weekly service resumes from 3 September.

If you have questions/suggestions of areas to cover during above presentations or ideas for deep dives or focus topics you would like us to consider, please send them to us at: box.nc.customer@neso.energy

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Slow Reserve update

On 1 August 2025 NESO submitted the EBR Article 18 consultation to Ofgem for approval of the new Slow Reserve (SR) service and we would like to thank market participants for their valuable feedback during the industry consultation period.

In our recently published SR Transition plan, we set out our ambition to go-live with the SR service on 15 October 2025, and at the same time cease STOR procurement. If we identify any change to our existing ambition, we will notify industry at the earliest opportunity through the normal communications channels, and we expect to provide a further update on the timeline for go-live later in August 2025.

For the avoidance of doubt, the STOR service will remain in place until the new SR service is operational.

QR phase 2 & Dynamic Response Update

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Quick Reserve Phase 2

We can now confirm the first QR phase 2 auction, allowing non-BM providers to participate, will take place at 14:00 on **2 September 2025** for Service Day **3 September 2025** (commencing at 23:00 on 2 September). Further details to follow shortly.

Onboarding via SMP and access for end-to end testing of the new Performance Metering API (required for BM and non-BM participants for QR phase 2) is available now and from **4 August** all non-BM providers will be able to access OBP to commence system testing.

Please refer to our recent QR Onboarding webinar for full details of the actions required on new and existing QR providers ahead of QR phase 2 go-live.

Please reach out to your Account Managers or commercial.operation@neso.energy for any assistance.

Ad-hoc C9 & ABSVD for NBM Dynamic Response

In line with Ofgem's decision letter for the Article 18 Dynamic Response and C9 consultations the relevant suite of C9 documents and Dynamic Response terms and conditions will also go live on the first Service Day of QR2. As such ABSVD for non-Balancing Mechanism Units will be applied from **23:00 on 2 September**.

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Network Access Planning (NAP) Virtual OC2 forum

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Network Access planning will be hosting our bi-annual OC2 forum on **2 September 2025.**

This event is designed for outage planning customers and stakeholders to share ideas on how to deal with the challenges facing our industry and how we are exploring the opportunities to come, as well as learning more about our departmental plans and some internal changes we have made recently.

You will also have the opportunity to ask questions.

Date & Time details:

Date:	2 September 2025
Time:	10:00 – 13:00
Location:	Virtual

Attendance & who this webinar is suited for:

This forum is specifically tailored for professionals closely involved in day-to-day outage planning activities with the Network Access Planning team. You can find details related to the content discussed at our previous OC2 forum here.

If you are interested in attending, please register via this link.

For any enquiries please contact us by email - box.oc2forum@neso.energy

Demand Flexibility Service (DFS) Evolution Update

The DFS team recently released a recording sharing their initial thoughts on the evolution and expansion of the service, click here to listen.

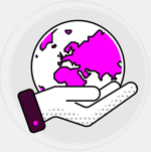
Additionally, the team are holding several deep dive workshops on the proposals and looking to engage with industry to gather feedback on some key aspects of the evolution

demandflexibility@neso.energy

DFS Evolution Workshops

Baselines & ABSVD
Wed 13 Aug – 1pm to 2.30pm
Register

Demand Turn-Up
Mon 18 Aug – 1pm to 3pm
Register



Locational Procurement
Wed 20 Aug – 1pm to 3pm
Register

Eligibility Rules & Process
Thurs 4 Sept – 1.30pm to 3.30pm
Register

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NESO Business Plan April 2026 – March 2028

Call for input

- Two-year plan from April 2026-March 2028
- First post RIIO-2 business plan
- Performance objectives in development but will build upon those set out in BP3.

Submit your thoughts & views

We are keen to hear your views on the commitments you feel we should deliver in the April 2026 – March 2028 period.

To share your opinions, please submit a response to our call for input via the form linked in the chat before **Monday 11 August 2025.**

NESO Business Plan Development Call for Stakeholder Input

Closing soon!
Final chance to submit your views to Call For Input before the form **closes on Monday 11 August**

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Future Event Summary

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Event	Date & Time	Link
Dispatch Transparency Programme – Webinar (Data Interpretation)	7th Aug (14:00-15:30)	Register here
DFS Evolution Workshop	13 Aug (13:00-14:30)	Register here
DFS Evolution Workshop	18 Aug (13:00-15:00)	Register here
DFS Evolution Workshop	20 Aug (13:00-15:00)	Register here
Network Access Planning (NAP) Virtual OC2 forum	2 Sep (10:00-13:00)	Register here
DFS Evolution Workshop	4 Sept (13:30-15:30)	Register here
Balancing Programme Sep 2025 Webinar	16 Sep (11:00-12:30)	Register here

Check out the NESO Events Calendar for more...

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Operational Metering

What is Operational Metering?

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In the context of BMU - Set of signals, provided by the Asset Owner (Market Participant) in accordance with their contractual obligations: depending on connection type and fuel type

- General requirements can be seen in the Grid Code (e.g. CC/ECC.6.4.4 and CC/ECC.6.5.6), CUSC and BSC

Connection Types:

- Transmission connected over the SCS of the Transmission Owner (respecting the STCP)
- DNO connected assets over Internet (VPN) through our Data Concentrator iHOST;
- Direct RTU connection – usually used by OFTO

Appendix F5 – Schedule 2

Operational Metering Requirements (CC/ECC.6.4.4 and CC/ECC.6.5.6). Note: For the avoidance of doubt the term 'Boundary Point Metering System' is that as defined in the Balancing and Settlement Code.

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Signals (BMUs ≥ 1MW)	Range	Scale (Unit)	Accuracy	Resolution	Refresh Rate
Active Power	-100 MW to +100MW	MW	1% of meter reading	1kW	1 per second
Reactive Power	-100 MVAr to +100MVAr	MVAr	1% of meter reading	1MVAr	1 per second
EU Code User System Entry Point Voltage	0 – 100%	kV	1% of meter reading	1kV	1 per second
Controlling Breaker	Open/Closed	0/1	N/A	N/A	On Change
Tap Position	1 - 64	Value	N/A	N/A	On Change
Additional requirements for wind farms only					
Wind Speed	0 – 50m/s	m/s	5%	1m/s	1 per Minute
Power Available	0 – 100%	MW	1% of meter reading	1kW	1 per second
Wind Direction (0 deg denotes FROM due North)	0 – 359 deg	5 deg	±15 deg	5 deg	1 per Minute
Additional requirements for Solar PV only					
Power Available	0 – 100%	MW	1% of meter reading	1kW	1 per second
Global Radiation	0 – 2000W/M^2	W/m^2	1% of meter reading	1W/m^2	1 per Minute
Ambient Temperature	-100 - +100 ^{0}C	^{0}C	1% of meter reading	1Deg	1 per Minute
Additional requirements for Battery & Storage only					
State of Charge (Energy) Import/Export	0 - 100%	%	1% of meter reading	1%	1 per second
Energy Available	0 - 100%	MWh	1% of meter reading	1MWh	1 per second
Additional requirements for Tidal only					
Tidal Flow	0 - 5m/s	m/s	1%	0.1m/s	1 per Minute
Tide Direction (0 deg denotes TO due North)	0 – 359 deg	deg	±15 deg	5 deg	1 per Minute

Why we need Operational Metering?

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Visibility – ENCC needs to know what is happening on the network;

Analysis/Forecasts - based on the current values, we can make forecasts and better prepare for the future

Security of Supply – we manage the power flows on the network, based on available Operational Metering – pls note - Operational Metering include also all transmission lines metering, reactive power , controlling brakers, wind speed, solar radiation, temperature etc…

We have more than 120 000 analogue signals and more than 100 000 status (discrete) signals, which are used for situational awareness…

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What we do? - the Operational Metering Team

- Responsible for confirming and maintaining the Operational Metering Requirements in according to the Contractual and Legal obligations of the Market Participants;
- Onboarding new BMUs into the BM for Transmission (TO) connected through Substation Control System connections and DNO connected assets over Internet (VPN) through our Data Concentrator iHOST:
  - Initial Operational Metering Test **before the SORT Static cut off date**– connectivity, scalability and polarity with simulated data from the Generator
  - Additional Operational Metering Tests – with live data from the Generator - **after the SORT Upload.**
- Investigations on faulty Operational Metering;

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Where can I find more?

- The Grid Code, CUSC, BSC, STCP 04-3 Real Time Data Provision
- Please read our Guidance Documents :

https://www.neso.energy/industry-information/balancing-services/balancing-mechanism-wider-access

- Contact us at opsmetering@neso.energy

Some pre-submitted Q&As:

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- **What percentage of operational metering is typically not working?**
  - in the context of BMUs, we have approximately 3-5% Active Power signals which are faulty and in the process of being resolved;
- **How much of a challenge is that for the control room?**
  - Ops metering is the eyes of the ENCC – the better visibility we have the better our operational decisions would be . It is important for the security of supply and sometime these 3-5% may be rather important if the BMU is e.g. behind a constraint;
- **Are there plans to try encourage greater reliability?**
  - Updated guidance on the criteria of joining BM
  - Proactively talking with Market Participants and Transmision Owners, supporting them in resolving the Metering Faults

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Public

Standardisation of Power Flow Metering Polarity

Grid Code Review Panel

July 2025

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What is the Issue?

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- **Issue**
  - "Incorrect/inconsistent" polarity for operational power flow metering data fed into the NESO SCADA system, for example negative instead of positive flow

- **Impact for NESO**
  - Deteriorating accuracy in NESO management system
  - Reduced State Estimation reliability impacting situational awareness
  - Reduced system security and potential SQSS breach due to less effective contingency analysis
  - Additional balancing costs incurred by less efficient output from downstream NESO balancing and forecast systems

- **Impact for other stakeholders**
  - Delay in setting up metering for new connections
  - Increased workload due to updating and correcting metering polarity
  - Delay in NESO's decision making for outages and commissioning
  - Potential billing errors for settlements between NESO and energy providers

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Current Status and Effort

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- **Current Status**
  - No clear and unified power flow polarity standard in Grid Code for power flow data sent to NESO
  - No clauses in the Grid Code or licence obligations requesting parties to follow a power flow polarity standard and parties may choose their own convention which is inconsistent with other parts of the network
  - No clauses in the Grid Code requesting parties sending power flow metering with “incorrect” polarity to fix the issue
- **Current Effort**
  - NESO regularly audits, investigates and fix meters with incorrect polarity internally, but any workaround fix is temporary and not sustainable
  - NESO tries to establish communication channels with relevant parties to investigate and resolve the issues
  - NESO has set up an informal working group aiming to seek solutions in terms of code, standard, policy and process changes

Proposed Solution and Benefits

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Proposed Solution

- To develop a unified power flow polarity standard in the form of a diagram with an explanatory description
- To publish the diagram and description as an Electrical Standard, which will be referred in the relevant Grid Code clause (other codes will refer to the Grid Code)
- To improve/modify processes between NESO and other parties so that the standard will be followed and referenced when setting up new metering connections to NESO SCADA
- To ensure the polarity standard is followed during ongoing operation
- To implement for new connections only at this stage

Benefits

- Improved situational awareness, system security, better forecasts and reduced balancing costs
- Reduce and/or mitigate iterations and delays for setting up new connections and approval for outage and commissioning
- Improved coordination, efficiency and transparency between NESO and other parties following the unified polarity standard and standardised process

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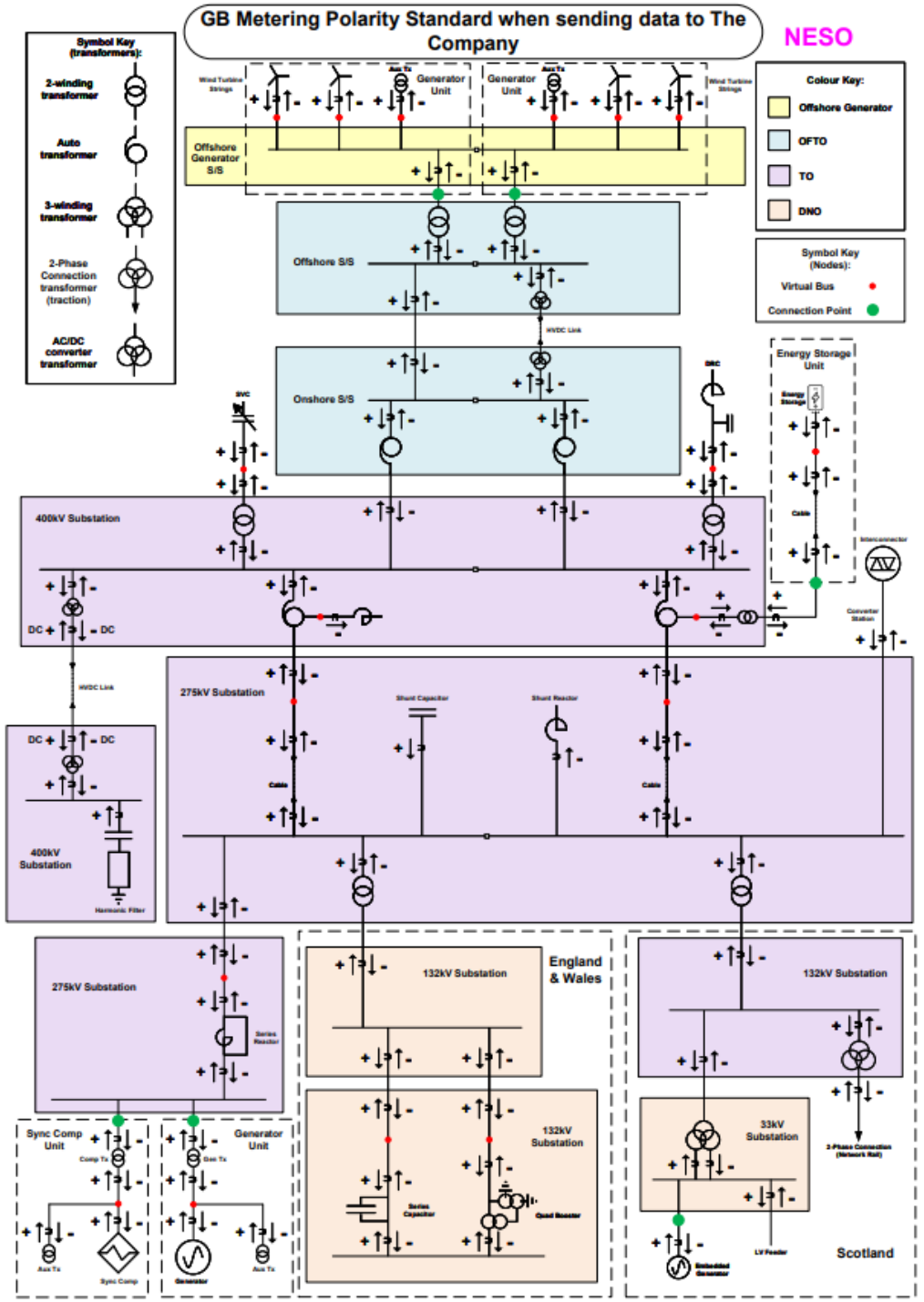
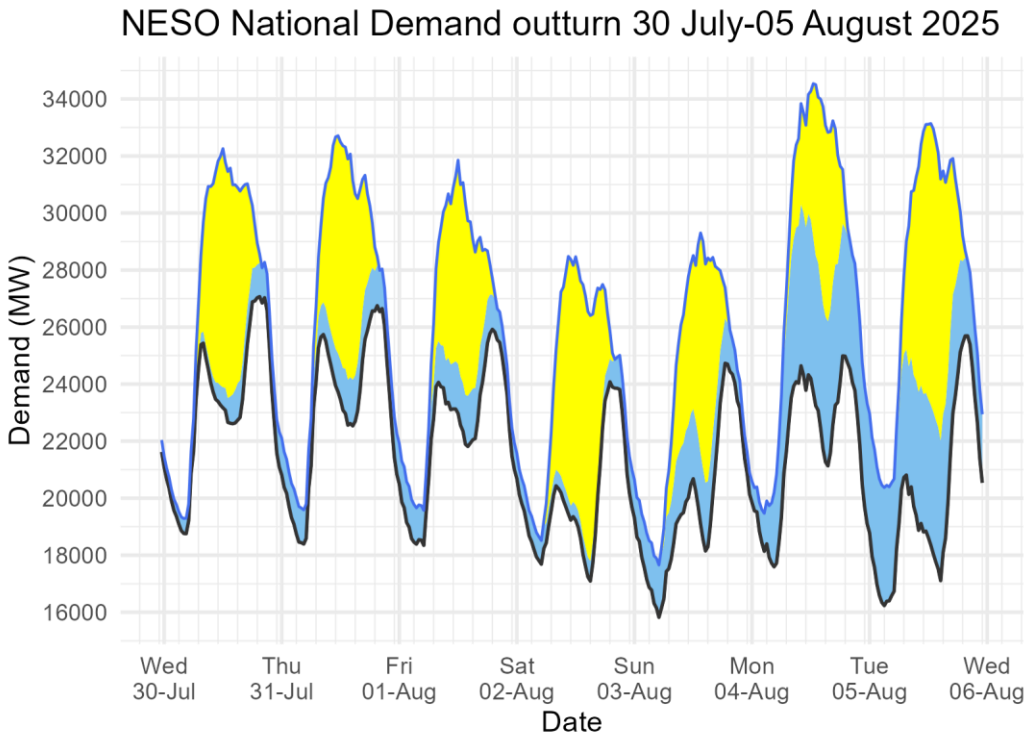
Metering Polarity Standard



Demand | Last week demand out-turn

Slido code #OTF



Distributed generation

Peak values by day

Date	OUTTURN Daily Max Dist. PV (GW)	OUTTURN Daily Max Dist. Wind (GW)
30 Jul 2025	8.4	1.3
31 Jul 2025	7.8	1.8
01 Aug 2025	7.1	1.8
02 Aug 2025	8.8	1.3
03 Aug 2025	8.0	2.5
04 Aug 2025	6.9	5.7
05 Aug 2025	9.9	5.0

National Demand

Minimum Demands

Date	Forecasting Point	FORECAST (Wed 30 Jul) National Demand (GW)	FORECAST (Wed 30 Jul) Dist. wind (GW)	FORECAST (Wed 30 Jul) Dist. PV (GW)	OUTTURN National Demand (GW)	OUTTURN Dist. wind (GW)	OUTTURN Dist. PV (GW)
30 Jul 2025	Daytime Min	23.1	1.3	6.0	22.6	1.0	7.3
31 Jul 2025	Overnight Min	18.4	1.2	0.0	18.4	1.2	0.0
31 Jul 2025	Daytime Min	23.9	1.5	6.4	22.5	1.6	7.0
01 Aug 2025	Overnight Min	17.8	1.6	0.0	18.3	1.2	0.0
01 Aug 2025	Daytime Min	20.3	1.8	8.1	21.8	1.8	6.1
02 Aug 2025	Overnight Min	17.1	1.0	0.2	17.7	0.8	0.0
02 Aug 2025	Daytime Min	16.3	1.1	8.8	17.1	0.7	8.6
03 Aug 2025	Overnight Min	15.9	1.4	0.9	15.8	1.8	0.0
03 Aug 2025	Daytime Min	16.4	1.5	2.2	17.5	2.0	1.5
04 Aug 2025	Overnight Min	17.3	1.5	0.0	17.6	2.6	0.0
04 Aug 2025	Daytime Min	20.9	1.9	8.5	21.1	5.1	6.6
05 Aug 2025	Overnight Min	16.4	3.4	0.0	16.2	4.1	0.0
05 Aug 2025	Daytime Min	19.8	3.1	8.0	17.1	4.9	9.2

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

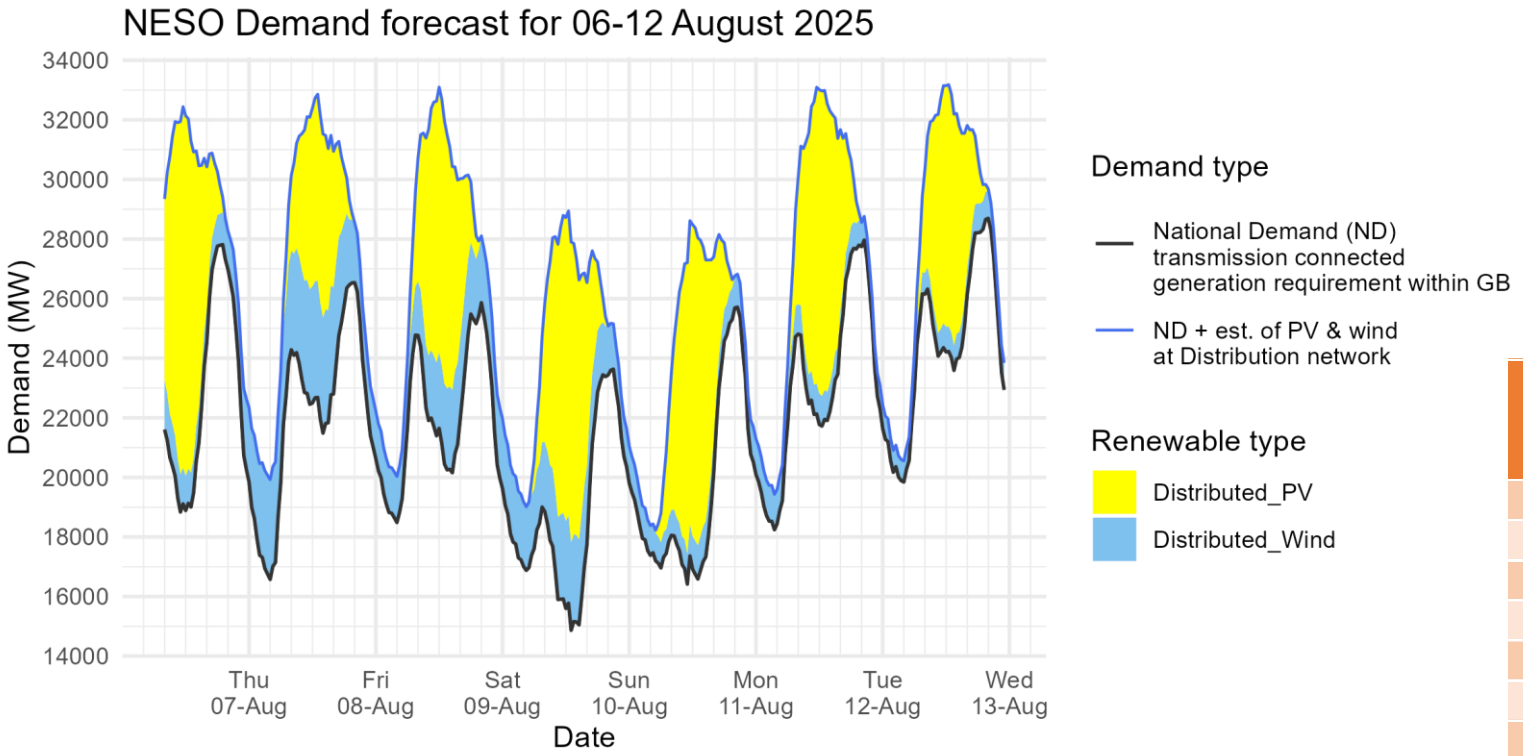
ND values do not include export on interconnectors or pumping or station load

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 NESO has no real time data.

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

Demand | Week Ahead

Slido code #OTF



National Demand
Minimum Demands

		FORECAST (Tue 05 Aug)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
05 Aug 2025	Daytime Min	17.3	4.9	10.1
06 Aug 2025	Overnight Min	17.5	2.2	0.0
06 Aug 2025	Daytime Min	19.1	1.5	11.6
07 Aug 2025	Overnight Min	16.9	3.2	0.0
07 Aug 2025	Daytime Min	21.7	3.6	6.5
08 Aug 2025	Overnight Min	19.1	0.9	0.0
08 Aug 2025	Daytime Min	19.8	2.4	8.3
09 Aug 2025	Overnight Min	17.2	1.8	0.0
09 Aug 2025	Daytime Min	14.8	2.6	10.6
10 Aug 2025	Overnight Min	16.3	1.5	1.0
10 Aug 2025	Daytime Min	14.8	2.1	10.3
11 Aug 2025	Overnight Min	17.8	1.6	0.0
11 Aug 2025	Daytime Min	22.9	1.7	6.8

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 NESO has no real time data.

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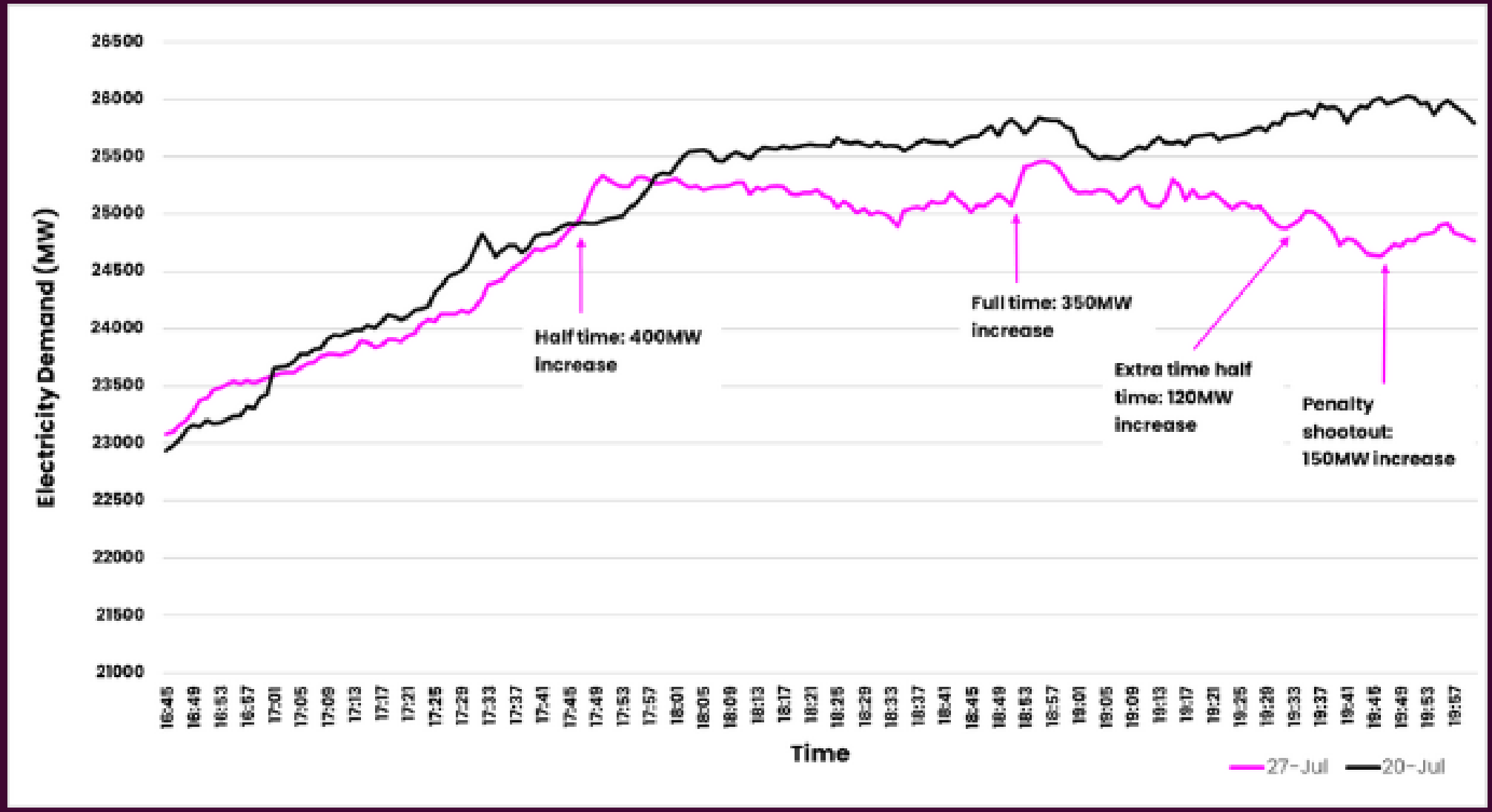
UEFA Women's Euro 2025 Electricity Demand

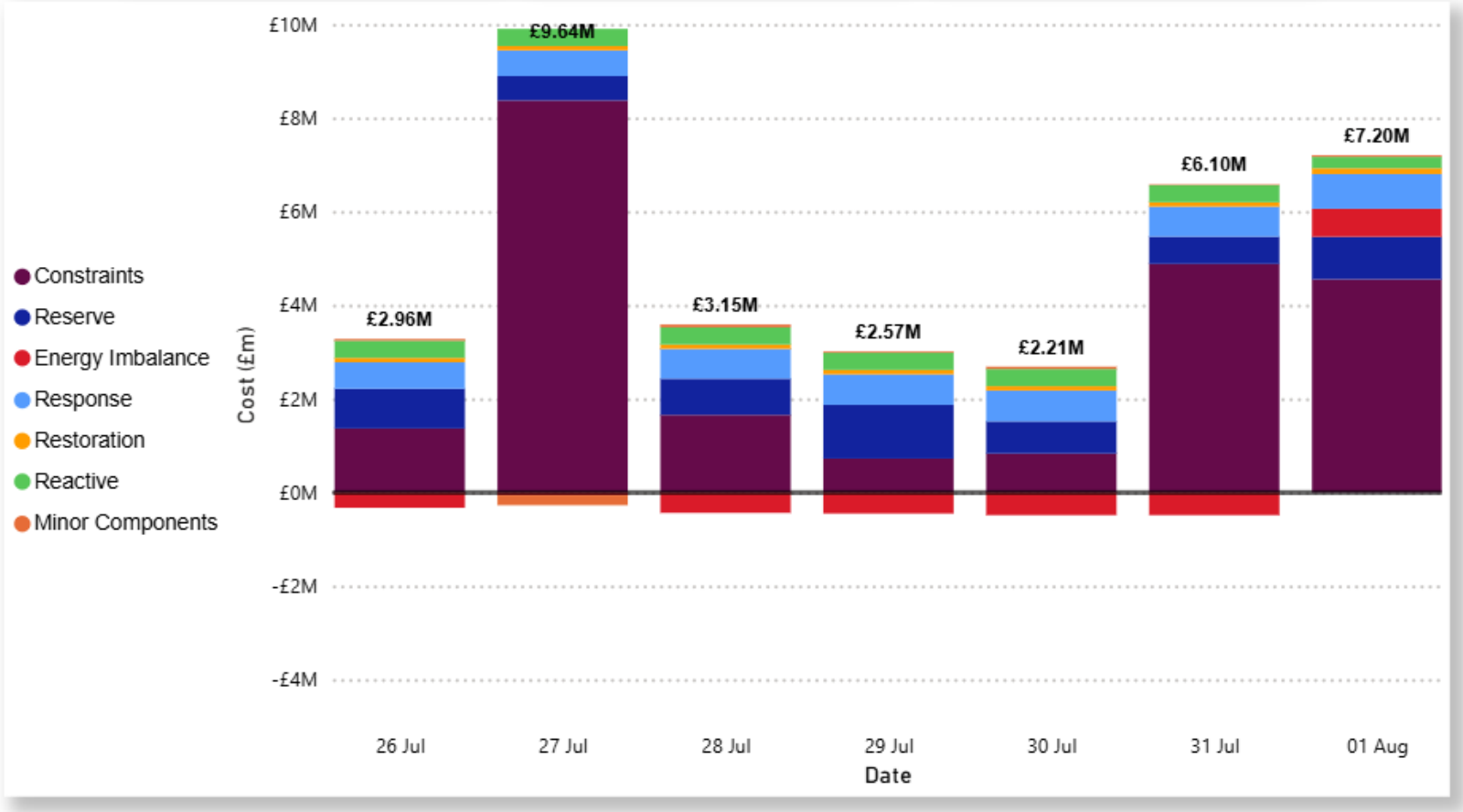


NESO Actions | Category Cost Breakdown

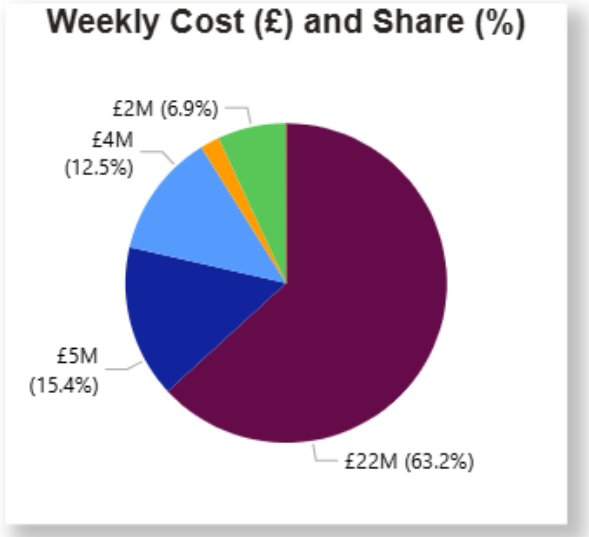
Date

26/07/2025 01/08/2025

Weekly Total Costs (£)	Last Week Total Costs (£)	Past 30-Day Average Costs (£)
33.8M	24.8M	5.6M



Date	Total Costs
26 July 2025	£2,955,057
27 July 2025	£9,635,769
28 July 2025	£3,152,852
29 July 2025	£2,565,356
30 July 2025	£2,205,917
31 July 2025	£6,101,163
01 August 2025	£7,203,857
Total	**£33,819,971**



NESO Actions | Constraint Cost Breakdown

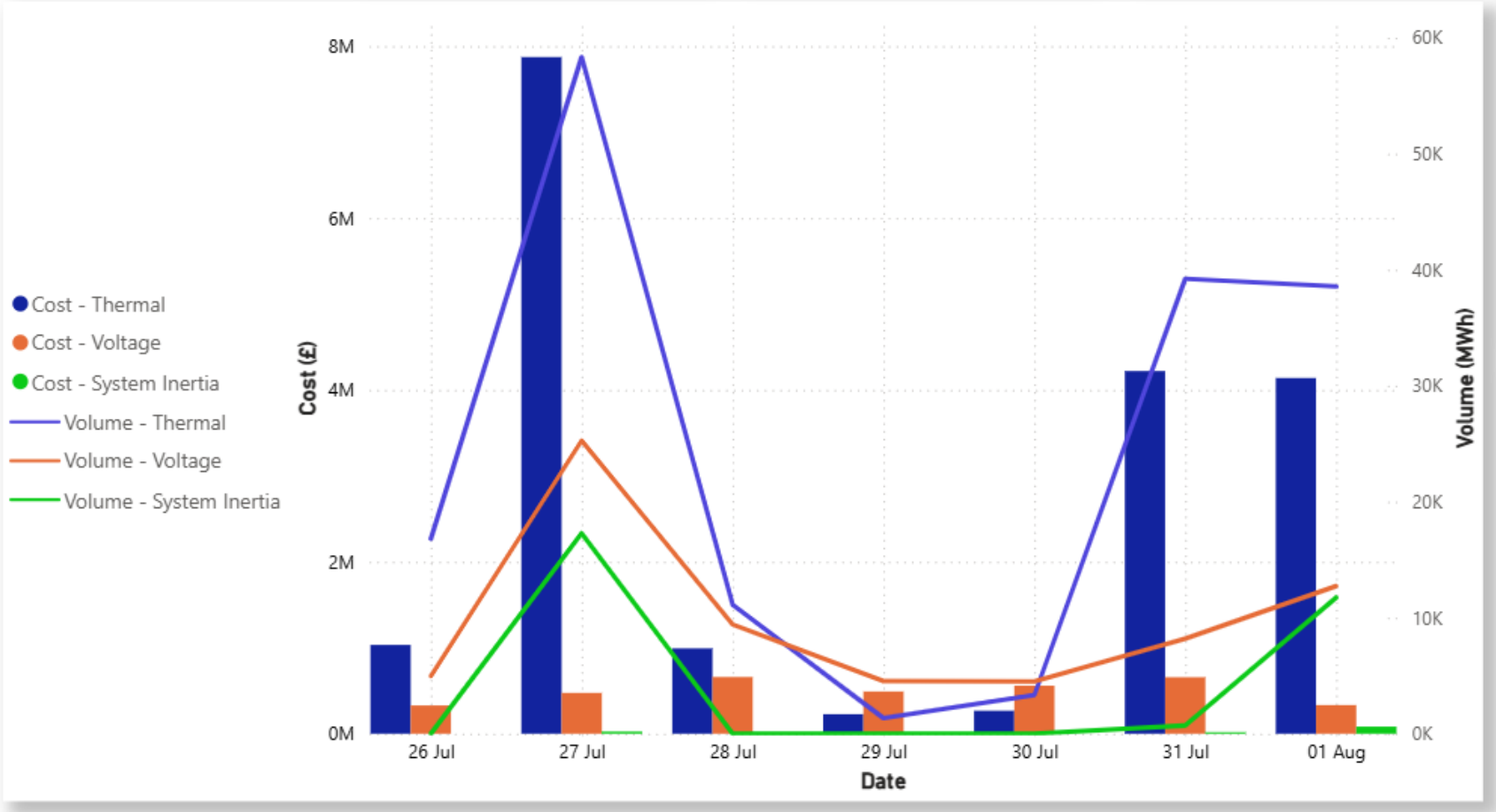
Slido code #OTF

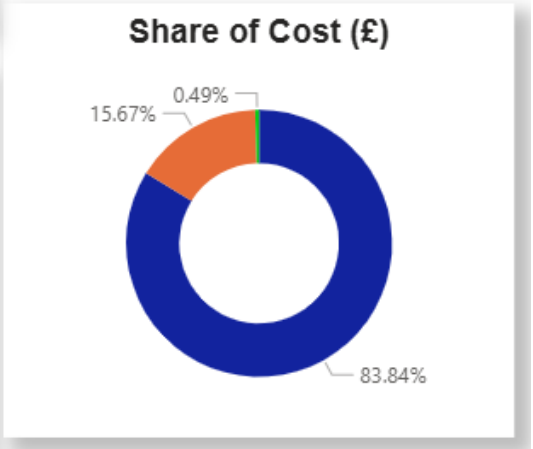
Date
26/07/2025 01/08/2025

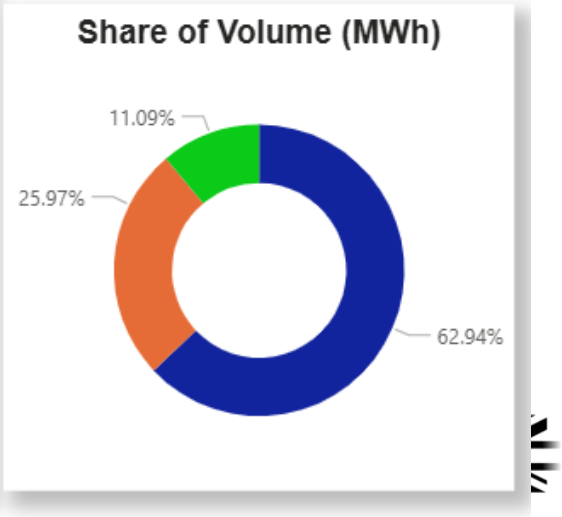
Thermal Constraints	
Costs (£)	Vol (MWh)
18.75M	168.73K

Voltage Constraints	
Costs (£)	Vol (MWh)
3.51M	69.61K

System Inertia	
Costs (£)	Vol (MWh)
109.30K	29.73K



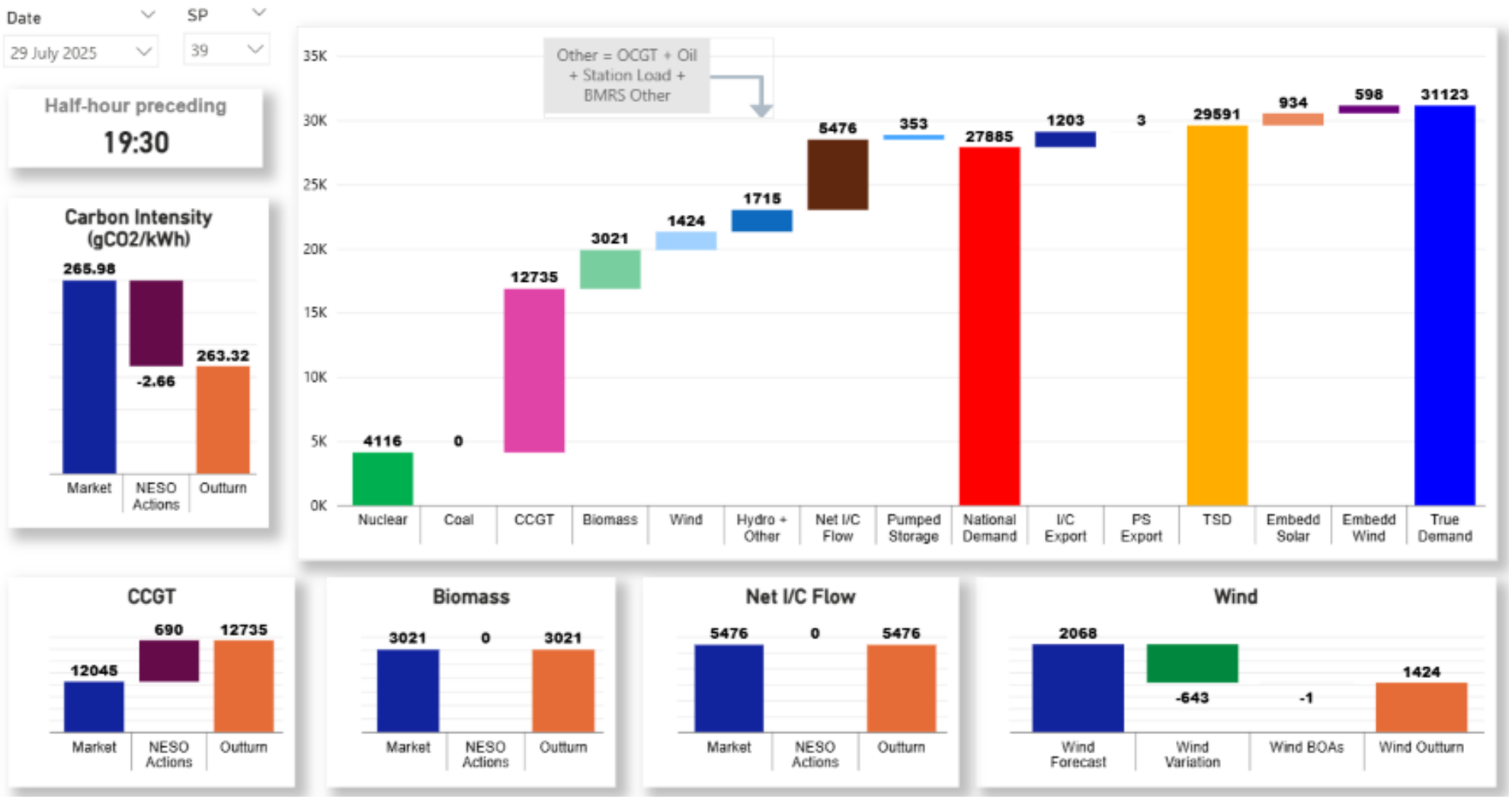




Note: Thermal Constraint volume is reported as an absolute figure.

NESO Actions | Peak Demand – SP spend ~56k Tuesday 29th July

Slido code #OTF

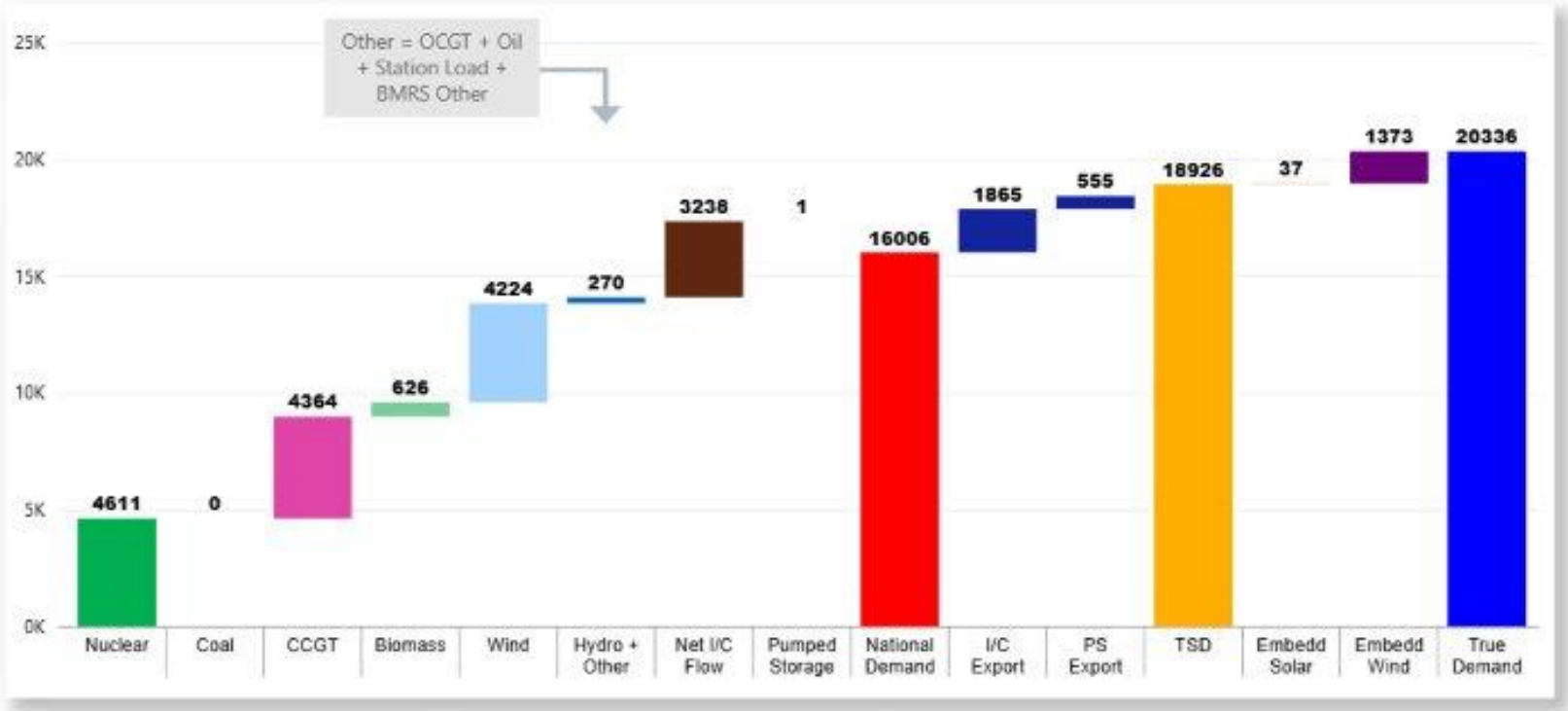


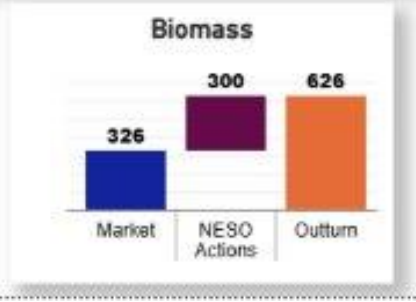
NESO Actions | Minimum Demand – SP spend ~£305k
Sunday 27th July

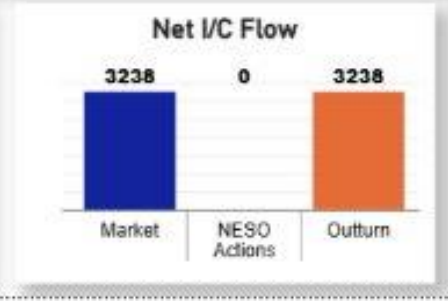
Slido code #OTF

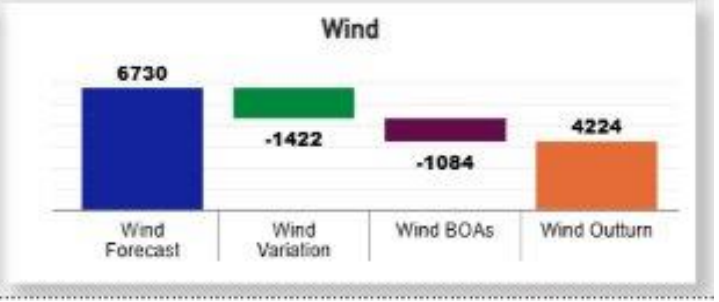
Date: 27 July 2025 | SP: 12

Half-hour preceding
06:00









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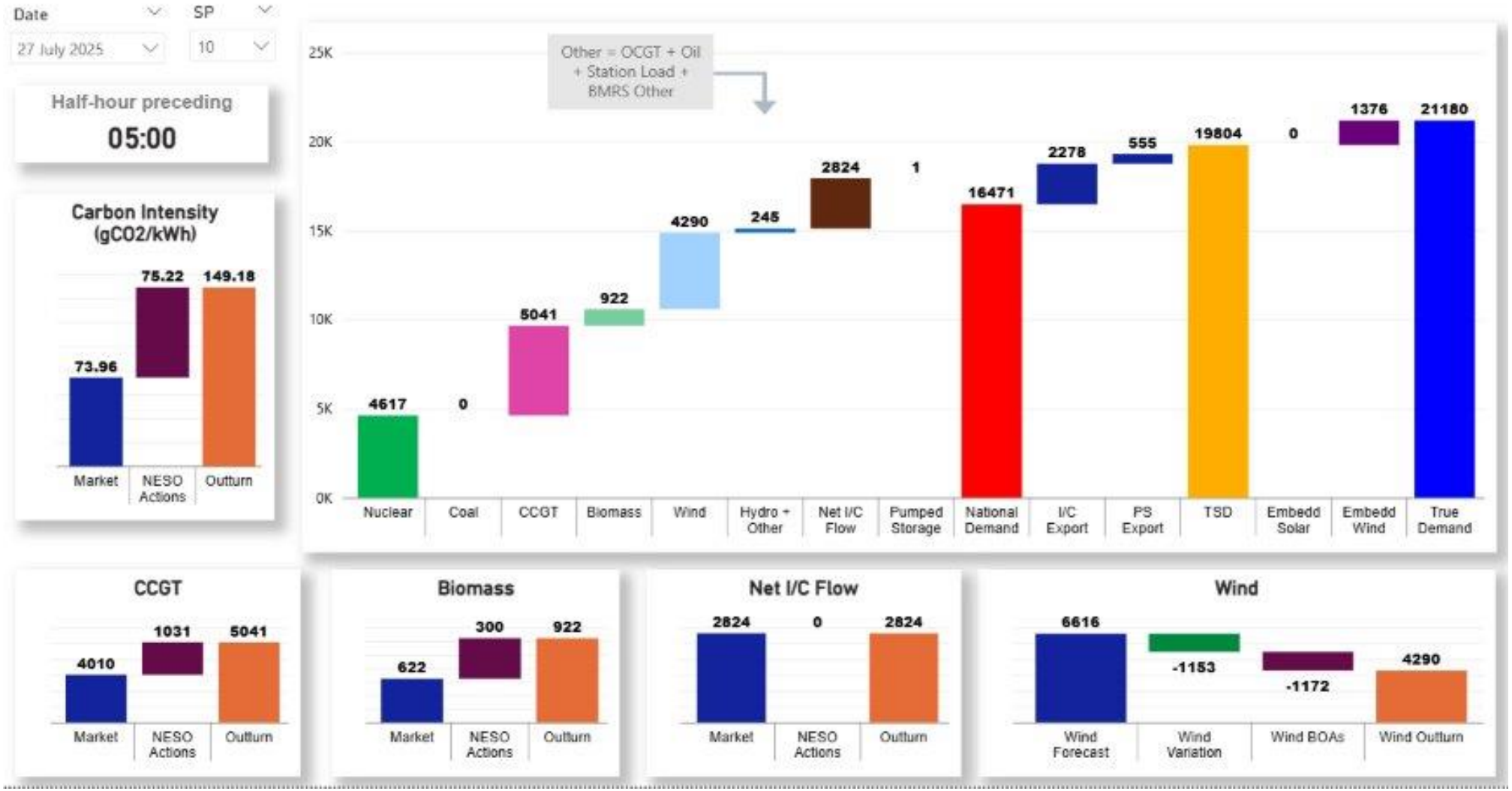
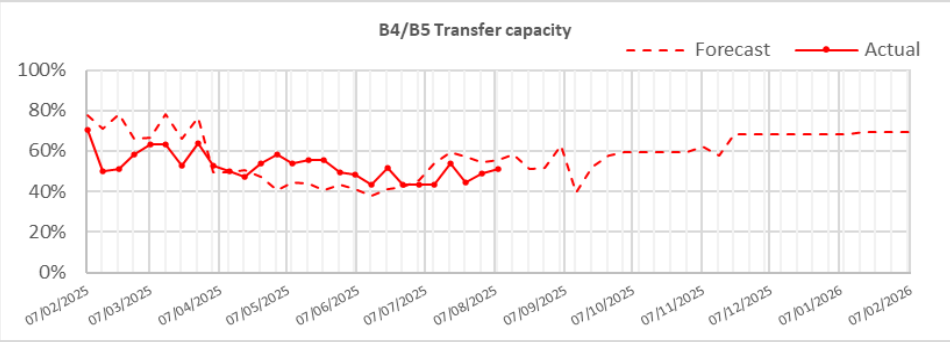
NESO Actions | Highest SP spend ~£329k
Sunday 27th July

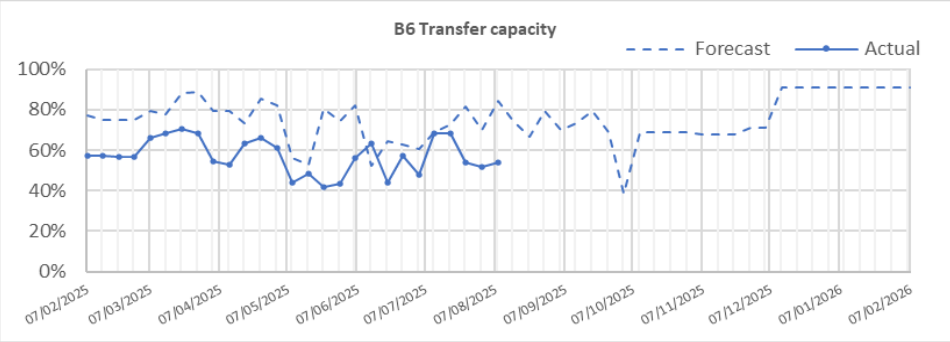
Slido code #OTF

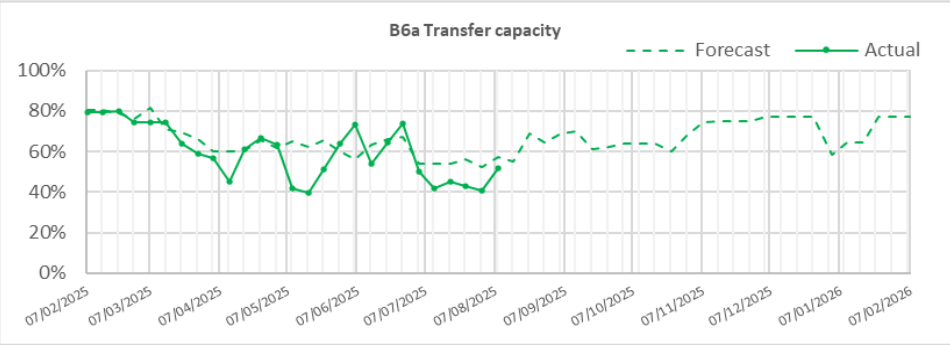


Transparency | Network Congestion

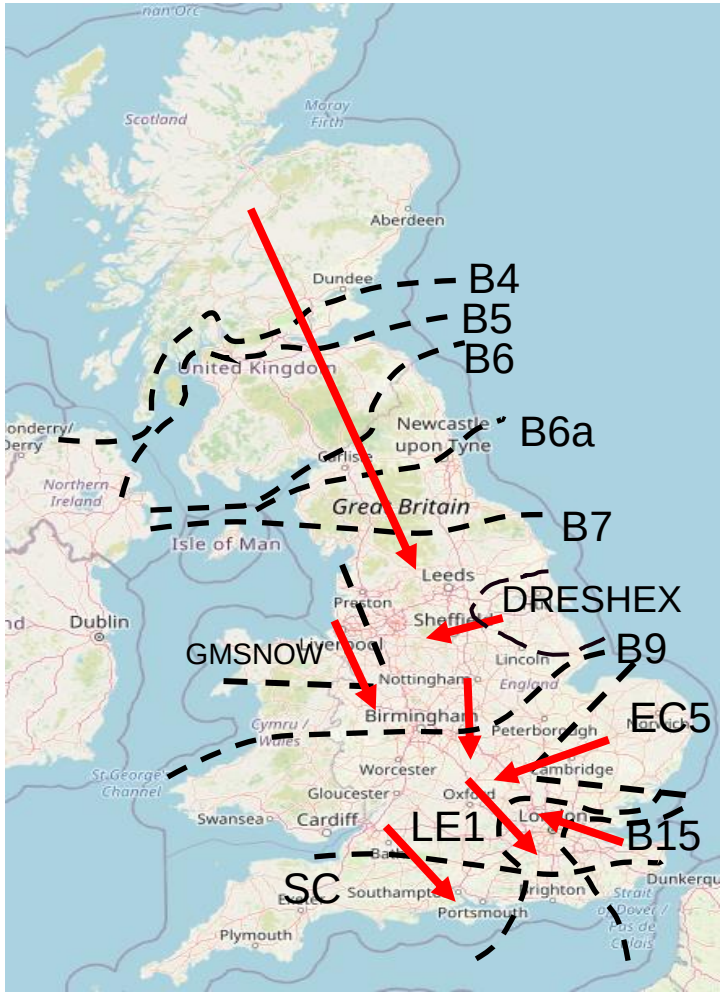
Slido code #OTF



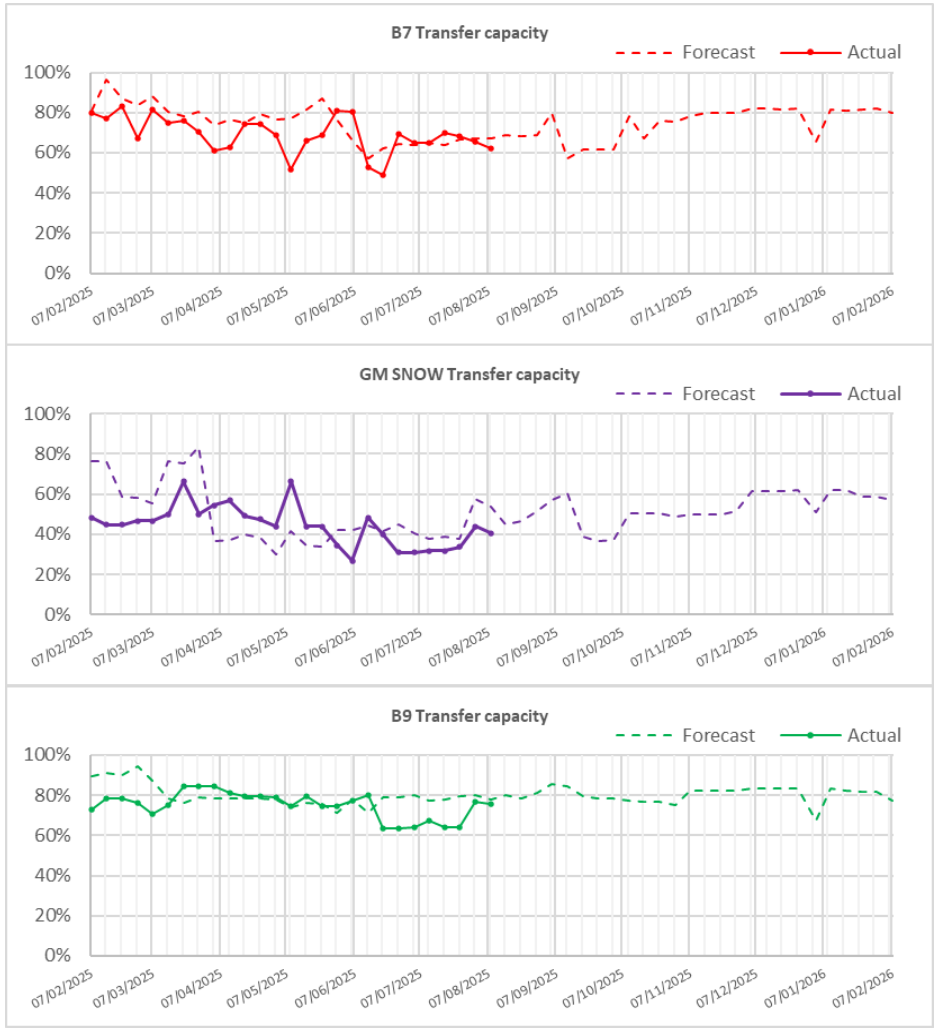




Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5	3400	51%
B6 (SCOTEX)	6800	54%
B6a	8000	52%
B7 (SSHARN)	9850	62%
GMSNOW	5800	41%
FLOWSTH (B9)	12700	76%
DRESHEX	9675	56%
EC5	5000	47%
LE1 (SEIMP)	8750	53%
B15 (ESTEX)	7500	86%
SC1	7300	45%



Transparency | Network Congestion



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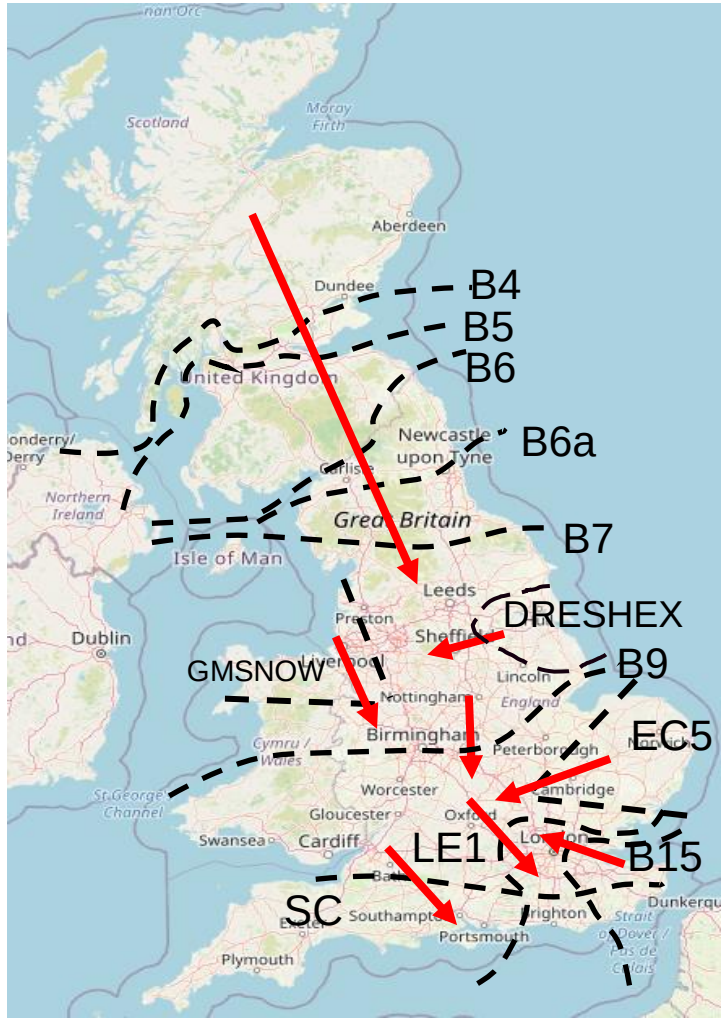
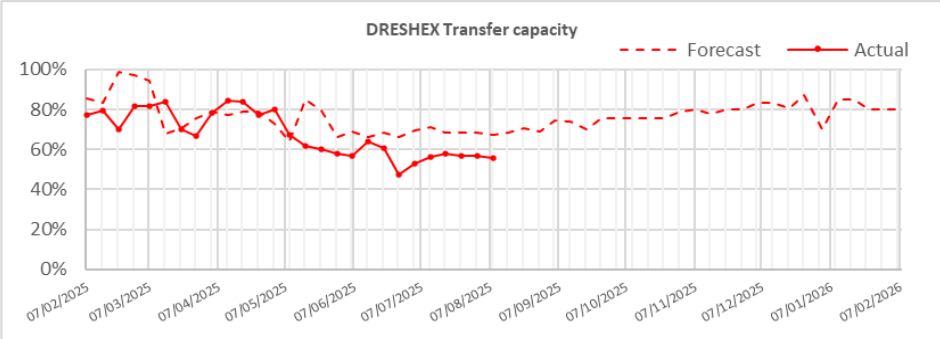
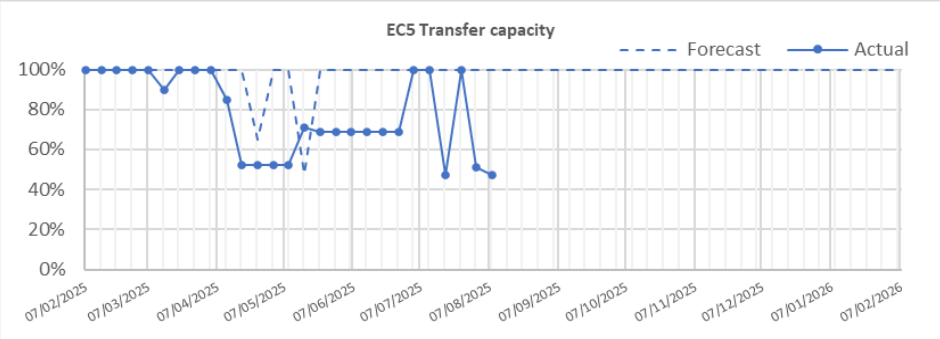
Slido code #OTF

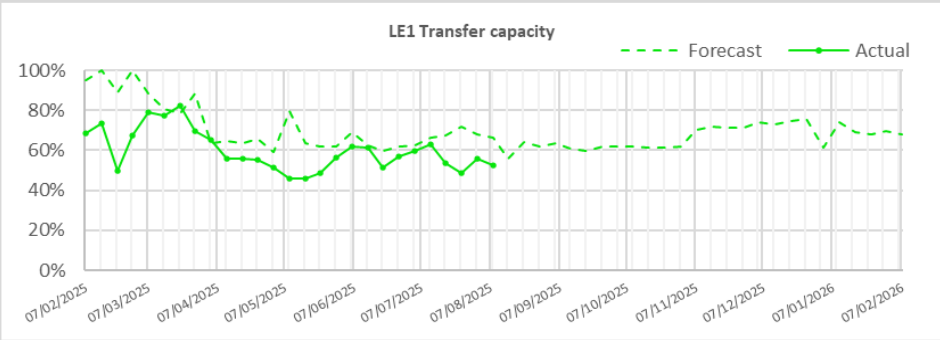


NESO National Energy System Operator

Transparency | Network Congestion







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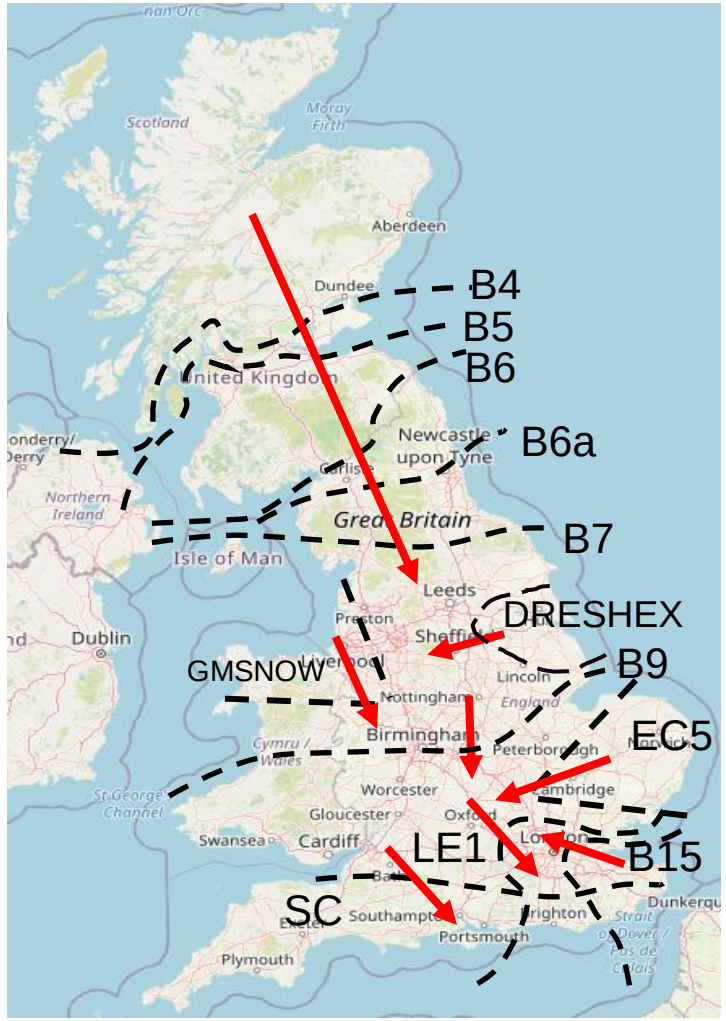
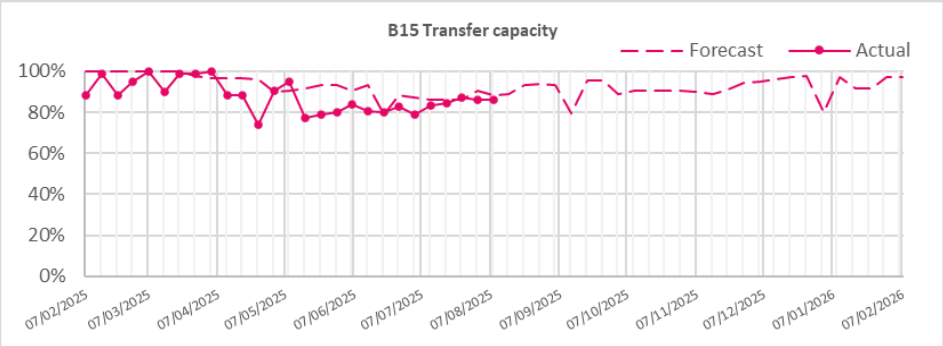
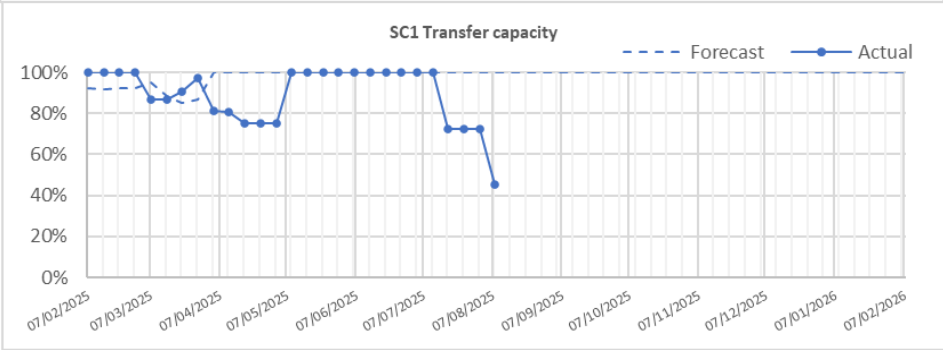


Transparency | Network Congestion





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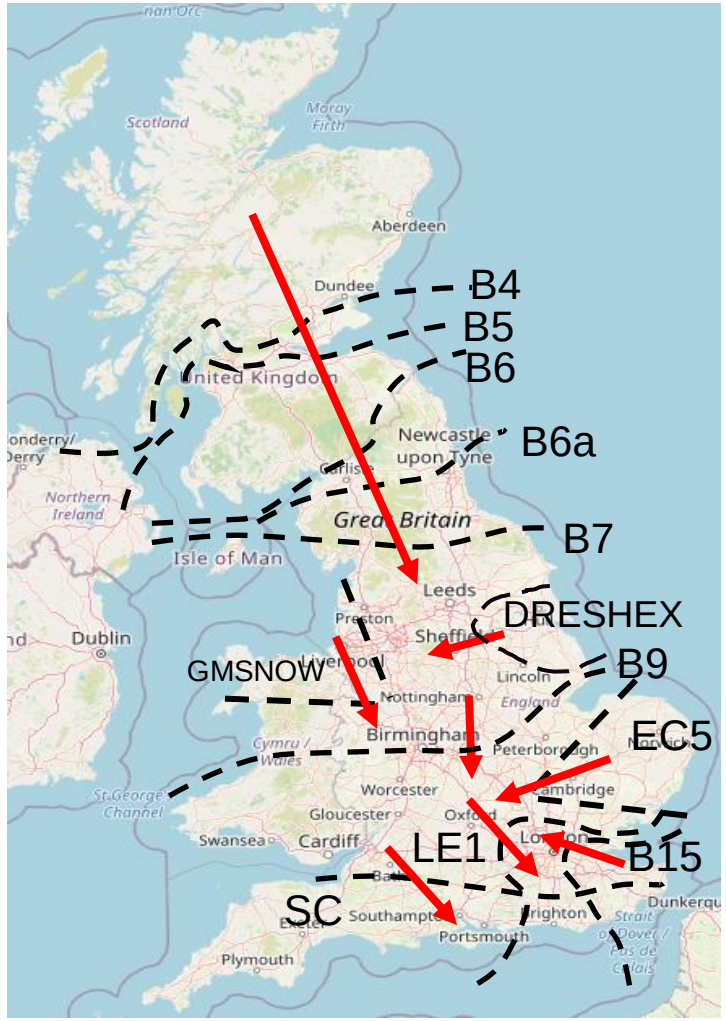


Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal: Constraints Management

(The forecast and day ahead limits may vary due to changes in the outage plan. The plan is reviewed periodically throughout the year to ensure we are optimising system conditions, whilst managing any necessary outage plan changes)

NESO National Energy System Operator

Skip Rates by Technology Type – Bids

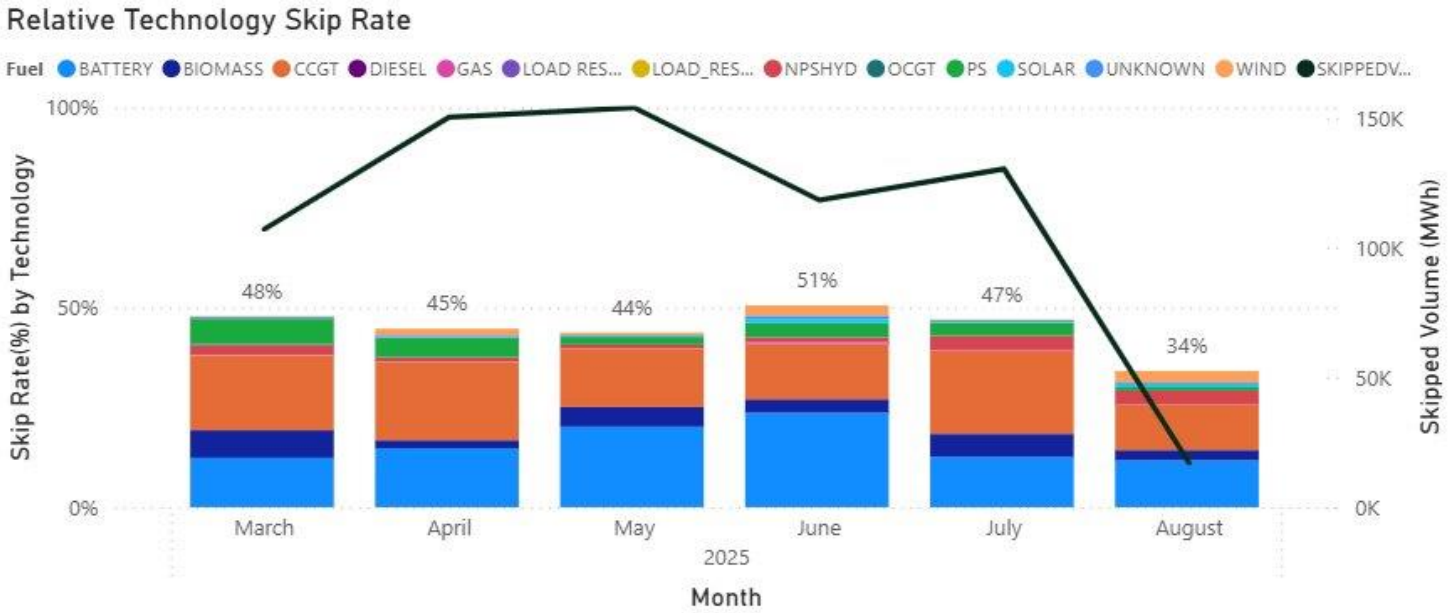
Slido code #OTF

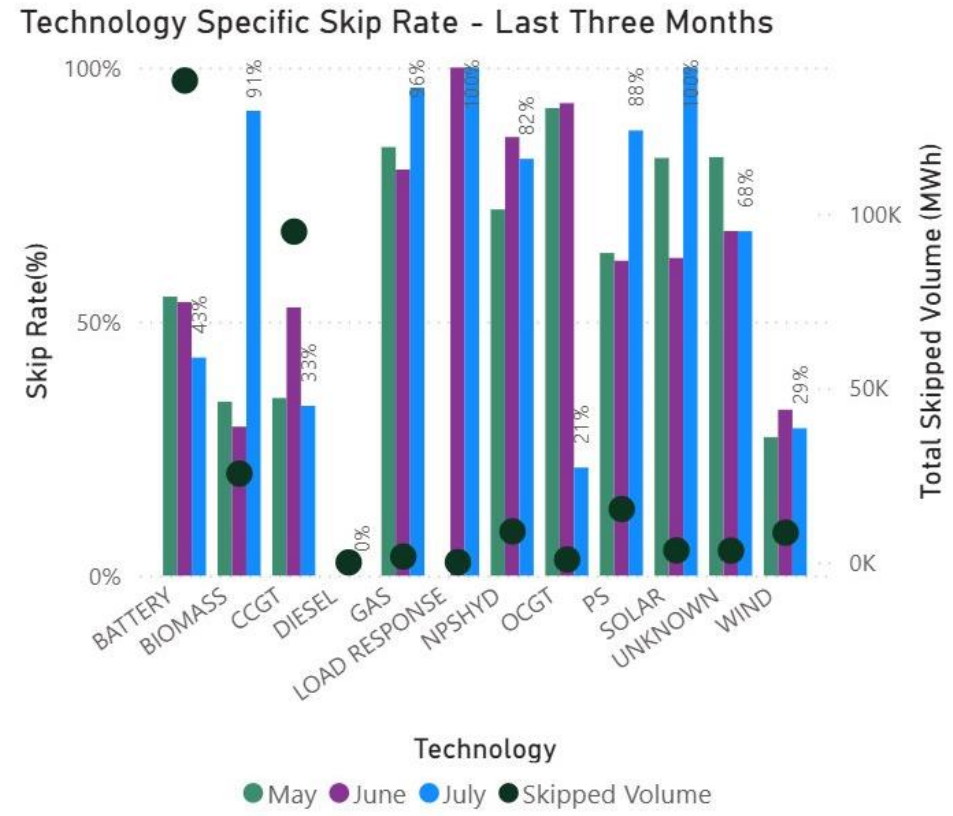
The current skip rate methodology only considers energy actions within the BM

We have added skip rate by technology type to our 4-week rolling summary. We welcome your comments on if you find this valuable and feedback on how we present this data.

These graphs are based on stage 5 of the PSA definition.

Weekly Average w/e	Bids - All BM	Bids - PSA
13/07	14%	58%
20/07	13%	47%
27/07	19%	47%
03/08	19%	40%





Gas: Gas reciprocating units
NPSHYD: Non-Pumped Storage Hydro
PS: Pumped Storage

Contact us on box.SkipRates@neso.energy

Skip rate data and more info on skip rates including methodology can be found on our website.

Skip Rates by Technology Type – Offers

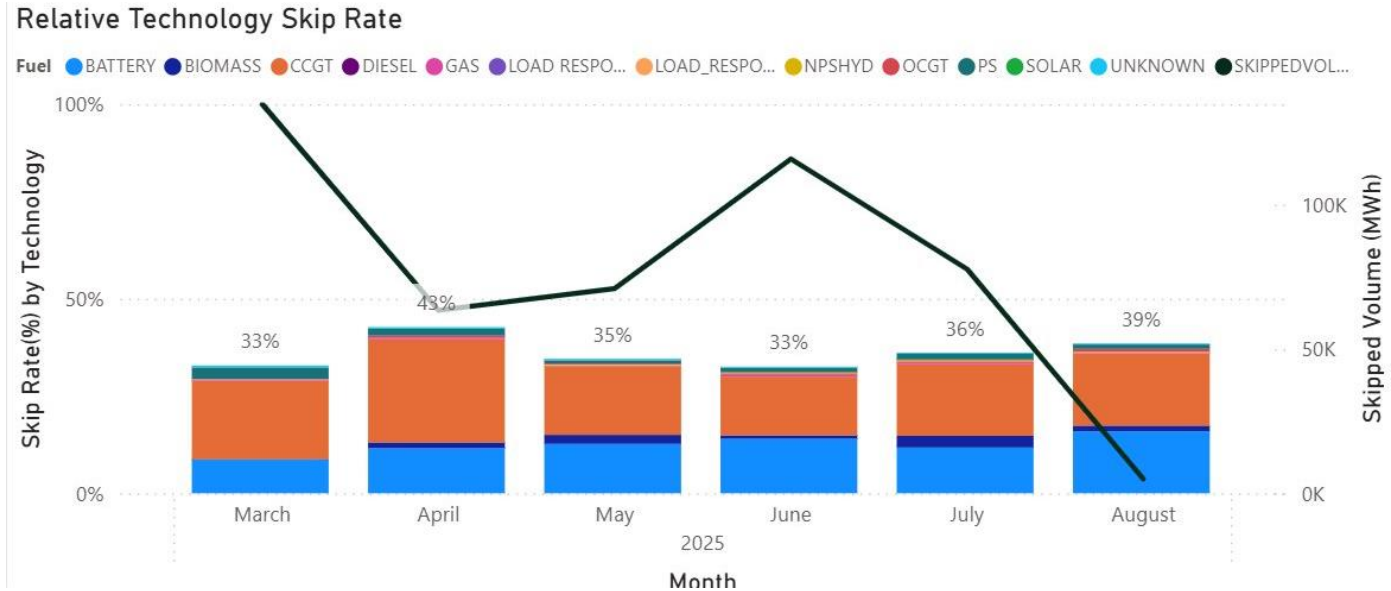
Slido code #OTF

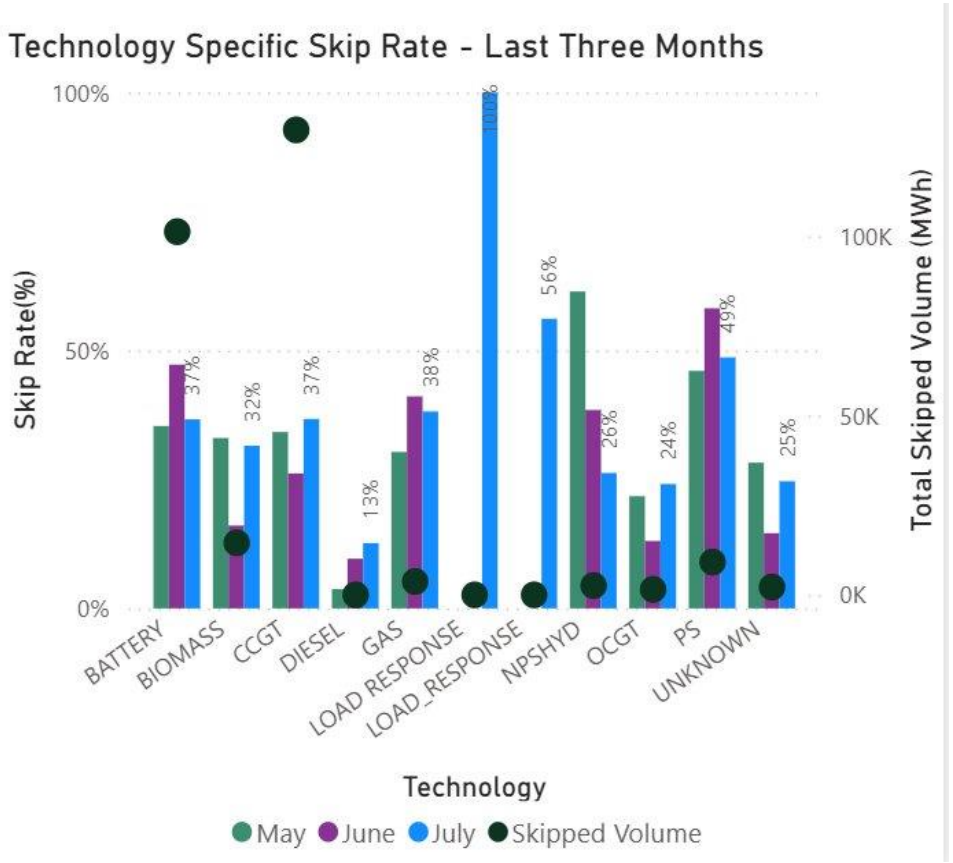
The current skip rate methodology only considers energy actions within the BM

We have added skip rate by technology type to our 4-week rolling summary. We welcome your comments on if you find this valuable and feedback on how we present this data.

These graphs are based on stage 5 of the PSA definition.

Weekly Average w/e	Offers - All BM	Offers - PSA
13/07	19%	38%
20/07	16%	35%
27/07	14%	34%
03/08	7%	37%





Gas: Gas reciprocating units
NPSHYD: Non-Pumped Storage Hydro
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Contact us on box.SkipRates@neso.energy

Skip rate data and more info on skip rates including methodology can be found on our website.

Rerecorded deep dive can for found on our webpage: here

NESO National Energy System Operator

Previously Asked Questions

Q: (23/07/2025) Have the lessons learned been shared widely if the issues was comms between market participants and EDT / EDL - is this on the NESO websites as to what occurred if not an outage?

A: Details of the EDL and EDT disruptions in June were shared in the OTF on 9 July. You will find the webinar recording and slides on our webpage at: Operational Transparency Forum | National Energy System Operator.

Participants that were impacted by the EDT disruption may wish to take this up with their EDT service provider.

Q: (23/07/2025) Outage, disruption - whatevs! We need to review the default rules as they are not fit for purpose - holding wind/solar at their PNs is simply not making sense in a renewable world. It is bigger issue than the comms.

A: As we explained at the OTF deep dive on 9 July, the EDT communications disruption impacted market participants because those participants and/or their service providers did not have a secondary link for EDT in place. Impacted participants may wish to take this up with their own EDT comms team or service provider.

While NESO has not identified an operational need to amend the default rules for EDT processes following the events on 24 June, we are ready and willing to participate in conversations and collaborate with industry initiatives through existing channels such as the Grid Code Development Forum (GCDF). Industry representatives (including the questioner) have already raised the issues at GCDF and NESO expect this will lead to productive discussion of this topic and the identification of constructive Grid Code modifications as appropriate.

The slides from the above deep dive are available on our webpage at: Operational Transparency Forum | National Energy System Operator

Previously Asked Questions

Q: (23/07/2025) Your answer to DFS and BSAD question is not clear. NESO reports procured and settled volumes on the dataportal. In the answer you talk about delivered and settled volumes. Which one goes into NIV (BSAD) and where can it be obtained? So far I've only seen procured values in the settlement files.

A: *We can confirm only DFS procured volumes published on the DFS Utilisation Report | National Energy System Operator are feeding in the DISBSAD report to Elexon.*
We do not resubmit or replace the DFS procured volumes with settled volumes, which is in line with the BSAD methodology.

(NIV is the net imbalance volume process owned/performed by Elexon.)

Q: (18/06/2025) What are the security of supply considerations related to constraint information? Are you saying gencos would deliberately act to destabilise the system if they could? Is there any evidence of any power plant ever having tried to do this?

A: The security of the network and energy supplies is outside the scope of a public forum such as the Operational Transparency Forum. These topics will be discussed in industry forums with the relevant industry stakeholders with appropriate safeguards in place.

Previously Asked Questions

Slido code #OTF

Q: Will Doble's forensic report on the transformer failure at North Hyde 275kV become available and can I request a copy? If not known, please could you point me in the right direction of someone who could help - thanks very much

A: Questions about publication of the Doble Report should be directed to NGET (National Grid Electricity Transmission) as the report was conducted on their behalf

Advance Questions

Slido code #OTF

Q: (28/07/2025) Please could NESO provide more information regarding the 1,000MW “Intertrip” on IFA on Friday 25th July 2025 at 12:38hrs (UTC)?

Was this action pursuant to a commercial arrangement?

Was the trip initiated by a manual instruction, or was it an automatic trip triggered by a fault on the local network?

A: The 1000MW IFA bipole 2ntertrip on July 25th was automatically triggered due to a combination of local faults on the network. The intertrip from 1000MW FR-> GB activated as per expectation as detailed in the operational protocol. Bipole 2 started ramping to its nominated reference program by 21:55 UTC the same day.

Advance Questions

Slido code #OTF

Q: (31/07/2025) System frequency can vary slightly across GB - we are using the data provided on the data portal (https://www.neso.energy/data-portal/system-frequency-data) to compare to our own sites' frequency readings to identify any unusual discrepancies and recalibrate where required.

1) Could you explain where in the country this 1Hz frequency measurement comes from and if aggregated from multiple locations how this is derived?
2) Could you confirm if this frequency reading is the one used to derive ABSVD volumes for response energy delivered when contracted for D* services? If not, which data source is used?

A: The system frequency published on NESO's portal is calculated using five different frequency measurements, which have been identified as the most reliable and accurate within the GB system. These frequency streams are ranked based on their accuracy and reliability, from the most preferred to the least. For every second, a validation check is performed on the quality and accuracy of the frequency measurement of the most preferred stream, if the measurement passes the validation test, the frequency value is used as the system frequency. If it does not pass, the validation check is performed over the next preferred frequency measurement, i.e., the measurement from the stream ranked second. This process continues until a valid frequency value is found. In the event that all five measurements are discarded (highly unlikely), the measurement closer to the system frequency of the previous second is used.

In relation to question 2, D* services the delivered volume is restricted to the instructed volume, not the actual metered response.

The frequency data must align with the validated 1Hz stream, which is used to confirm delivery compliance and trigger settlement actions.

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Advance Questions

Slido code #OTF

Q: (23/07/2025) Could you on the NESO OTF web page add a view of what the deep dive subject was in each week? This could be done as an Excel sheet of topics and dates. It would be really helpful and save a lot of time searching! Thanks

A: Thank you for your feedback. We are considering how we can best do this.

Outstanding Questions

Slido code #OTF

Q: (09/07/2025) On Lisa's question about the challenges to get a BEGA, I fully feel the pain . However, after CMP446: 'Increasing the lower threshold in England and Wales for Evaluation of Transmission Impact Assessment (TIA)' modification to increase the threshold to 5MW, do we still need a BEGA for small assets?

A: This question has been forwarded to the Connections Reform team: box.connectionsreform@neso.energy We will share their response at a future OTF.

Outstanding Advance Questions

Slido code #OTF

Q: (15/07/2025) We have been contacted by NESO wishing to make arrangements to gain the ability to disconnect one of our assets located in Scotland from the grid in the event of sub-synchronous oscillations (SSO). The communication states that NESO have seen oscillations of 3-20Hz in "this part of the Network". As our project is not yet operational, then clearly these oscillations are not of our making.

In the Sub-synchronous oscillations in GB, Current state and plans for future management May 2024 document, NESO stated:

"In operational timescales, we ensure that sub-synchronous oscillations are avoided by conducting stability studies closer to real time and taking appropriate measures to mitigate the risk of sub-synchronous oscillations. The operational measures we may take include requesting the arming/disarming power system stabilisers, management of series compensation schemes, network reconfiguration, managing outages to maintain system strength, etc"

Given NESO's request to gain the ability to disconnect our asset, it appears that these measures have not been sufficient to prevent sub-synchronous oscillations.

NESO also state "We follow a transparent and collaborative approach. Sharing lessons learned…" and "We will keep our customers and stakeholders informed of the progress of this plan, the future obstacles, and any other operational challenges encountered in the future"

Therefore:

1. Can NESO update the May 2024 report "Sub-synchronous oscillations in GB, Current state and plans for future management"
2. Has NESO encountered any SSO since Summer 2023? If so, where are details published?
3. The investigation into Summer 2023 "concluded that a particular asset was the major contributor to the sub-synchronous oscillations event". Has this asset's operation now been corrected so it is no longer a contributor?
4. Does NESO have any SSOs with unidentified sources?
5. Does this process affect the detail of RMS and EMT models which are required to be submitted?

NESO National Energy System Operator

Reminder about answering questions at the NESO OTF

Slido code #OTF

- **Questions from unidentified parties will not be answered live**. If you have reasons to remain anonymous to the wider forum, please use the advance question or email options. Details in the appendix to the pack.
- **The OTF is not the place to challenge the actions of individual parties** (other than the NESO), and we will not comment on these challenges. This type of concern can be reported to the Market Monitoring team at: box.nc.customer@neso.energy.
- **Questions will be answered in the upvoted order whenever possible**. We will take questions from further down the list when: the answer is not ready; we need to take the question away or the topic is outside of the scope of the OTF.
- **Slido will remain open until 12:00**, even when the call closes earlier, to provide the maximum opportunity for you to ask questions.
- **All questions will be recorded and published** All questions asked through Sli.do will be recorded and published, with answers, in the Operational Transparency Forum Q&A on the webpage: https://www.neso.energy/what-we-do/systems-operations/operational-transparency-forum
- **Takeaway questions** – these questions will be included in the pack for the next OTF, we may ask you to contact us by email in order to clarify or confirm details for the question.
- **Out of scope questions** will be forwarded to the appropriate NESO expert or team for a direct response. We may ask you to contact us by email to ensure we have the correct contact details for the response. These questions will not be managed through the OTF, and we are unable to forward questions without correct contact details. Information about the OTF purpose and scope can be found in the appendix of this slide pack

NESO National Energy System Operator

slido

Audience Q&A

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

Feedback

Slido code #OTF

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@neso.energy

Appendix

Purpose and scope of the NESO Operational Transparency Forum

Slido code #OTF

Purpose:

The Operational Transparency Forum runs once a week to provide updated information on and insight into the operational challenges faced by the control room in the recent past (1-2 weeks) and short-term future (1-2 weeks). The OTF will also signpost other NESO events, provide deep dives into focus topics, and allow industry to ask questions.

Scope:

Aligns with purpose, see examples below:

In Scope of OTF

Material presented i.e.: regular content, deep dives, focus topics
NESO operational approach & challenges
NESO published data

Out of Scope of OTF

Data owned and/or published by other parties
e.g.: BMRS is published by Elexon
Processes including consultations operated by other parties e.g.: Elexon, Ofgem, DESNZ
Data owned by other parties
Details of NESO Control Room actions & decision making
Activities & operations of particular market participants
NESO policy & strategic decision making
Formal consultations e.g.: Code Changes, Business Planning, Market development

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Managing questions at the NESO Operational Transparency Forum

Slido code #OTF

- OTF participants can ask questions in the following ways:
  - Live via Slido code #OTF
  - In advance (before 12:00 on Monday) at https://forms.office.com/r/k0AEfKnai3
  - At any time to box.nc.customer@neso.energy

- **All questions asked through Sli.do** will be recorded and published, with answers, in the Operational Transparency Forum Q&A on the webpage: Operational Transparency Forum | NESO
- **Advance questions** will be included, with answers, in the slide pack for the next OTF and published in the OTF Q&A as above.
- **Email questions** which specifically request inclusion in the OTF will be treated as Advance questions, otherwise we will only reply direct to the sender.
- **Takeaway questions** – we may ask you to contact us by email in order to clarify or confirm details for the question.
- **Out of scope questions** will be forwarded to the appropriate NESO expert or team for a direct response. We may ask you to contact us by email to ensure we have the correct contact details for the response. These questions will not be managed through the OTF, and we are unable to forward questions without correct contact details. Information about the OTF purpose and scope can be found in the appendix of this slide pack.

NESO National Energy System Operator

Demand | Last week demand out-turn

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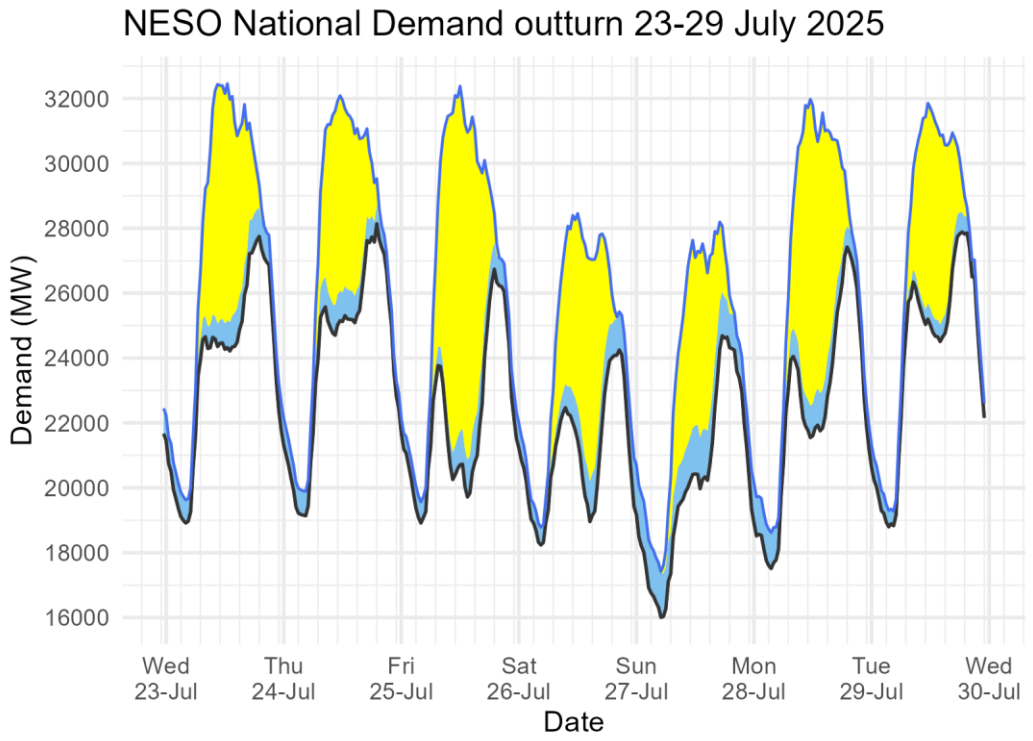


Distributed generation

Peak values by day

Date	OUTTURN	
	Daily Max Dist. PV (GW)	Daily Max Dist. Wind (GW)
23 Jul 2025	7.4	1.1
24 Jul 2025	6.0	0.9
25 Jul 2025	10.8	1.4
26 Jul 2025	6.9	1.5
27 Jul 2025	5.8	1.6
28 Jul 2025	9.5	1.2
29 Jul 2025	6.2	0.7

National Demand

Minimum Demands

		FORECAST (Wed 23 Jul)			OUTTURN		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
23 Jul 2025	Daytime Min	23.9	0.8	6.1	23.9	0.7	2.1
24 Jul 2025	Overnight Min	19.0	0.8	0.1	19.1	0.7	0.0
24 Jul 2025	Daytime Min	23.8	0.7	2.5	23.9	0.9	2.1
25 Jul 2025	Overnight Min	19.0	0.7	0.1	18.9	0.6	0.0
25 Jul 2025	Daytime Min	20.2	1.2	9.8	19.7	1.1	10.1
26 Jul 2025	Overnight Min	18.0	0.8	0.3	18.2	0.5	0.0
26 Jul 2025	Daytime Min	17.8	1.1	8.7	19.0	1.2	6.9
27 Jul 2025	Overnight Min	17.2	0.8	0.2	16.0	1.4	0.0
27 Jul 2025	Daytime Min	18.3	0.8	2.0	17.3	1.2	1.7
28 Jul 2025	Overnight Min	17.9	1.1	0.0	17.5	1.1	0.0
28 Jul 2025	Daytime Min	21.6	1.2	9.3	21.5	1.0	9.5
29 Jul 2025	Overnight Min	18.1	2.0	0.0	18.8	0.5	0.0
29 Jul 2025	Daytime Min	20.7	2.9	7.8	24.5	0.5	5.8

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

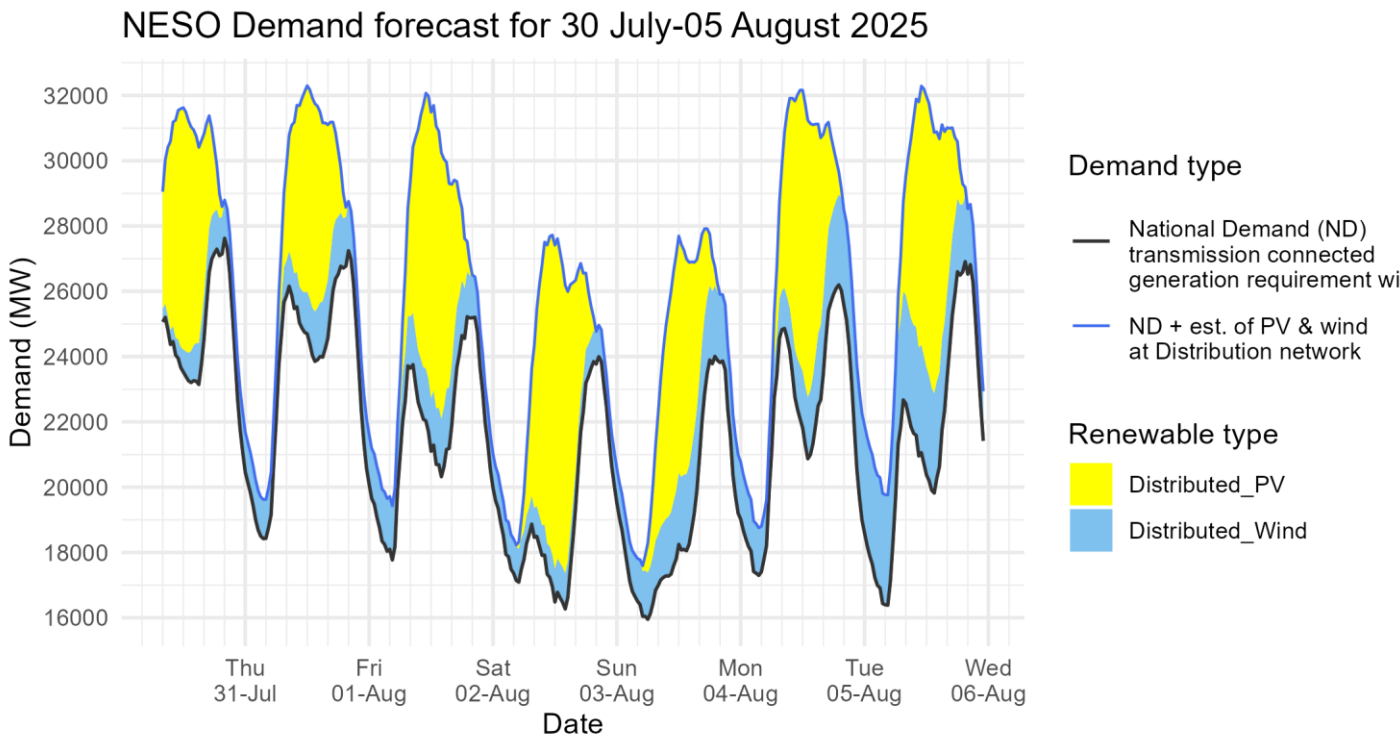
ND values do not include export on interconnectors or pumping or station load

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 NESO has no real time data.

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

Demand | Week Ahead

Slido code #OTF



National Demand
Minimum Demands

		FORECAST (Tue 29 Jul)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
29 Jul 2025	Daytime Min	9.4	0.3	2.2
30 Jul 2025	Overnight Min	19.0	0.6	0.0
30 Jul 2025	Daytime Min	23.3	0.8	7.0
31 Jul 2025	Overnight Min	18.8	0.9	0.0
31 Jul 2025	Daytime Min	22.1	1.5	7.8
01 Aug 2025	Overnight Min	18.0	1.6	0.0
01 Aug 2025	Daytime Min	20.6	1.8	7.9
02 Aug 2025	Overnight Min	17.1	1.3	0.2
02 Aug 2025	Daytime Min	16.7	1.2	8.3
03 Aug 2025	Overnight Min	15.7	1.6	1.0
03 Aug 2025	Daytime Min	16.1	1.7	2.4
04 Aug 2025	Overnight Min	16.9	2.1	0.0
04 Aug 2025	Daytime Min	21.1	1.9	8.3

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 NESO has no real time data.

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

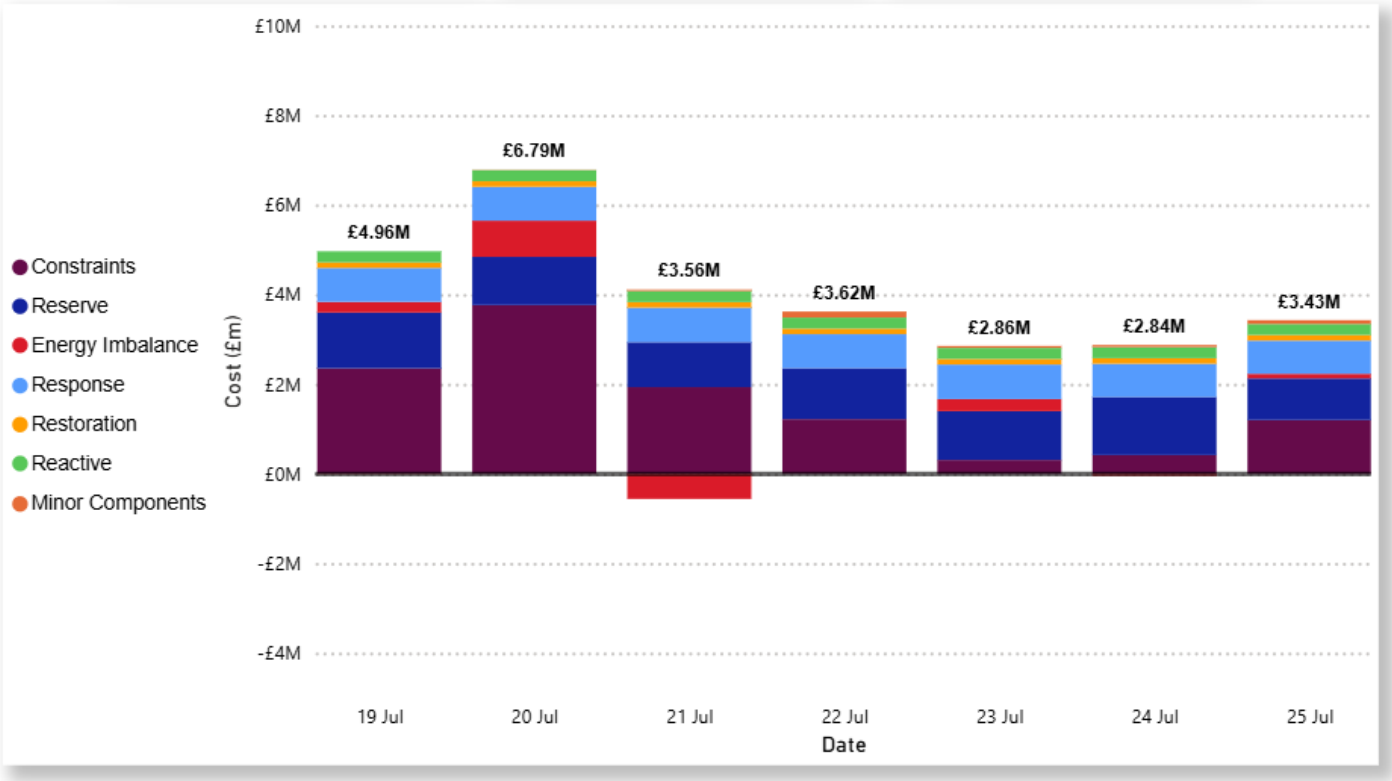
NESO Actions | Category Cost Breakdown

Slido code #OTF

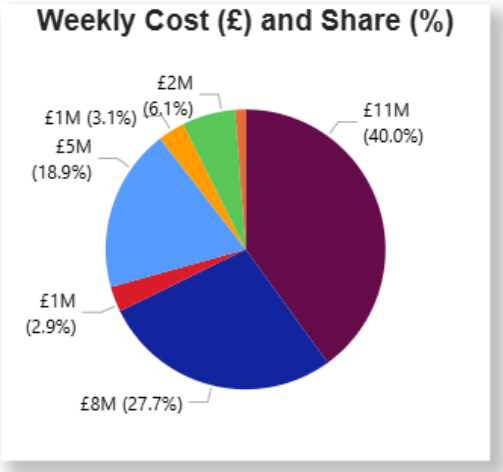
Date

19/07/2025 25/07/2025

Weekly Total Costs (£)	Last Week Total Costs (£)	Past 30-Day Average Costs (£)
28.0M	32.0M	7.3M



Date	Total Costs
19 July 2025	£4,960,174
20 July 2025	£6,786,596
21 July 2025	£3,555,208
22 July 2025	£3,623,955
23 July 2025	£2,856,676
24 July 2025	£2,835,307
25 July 2025	£3,431,950
Total	**£28,049,868**

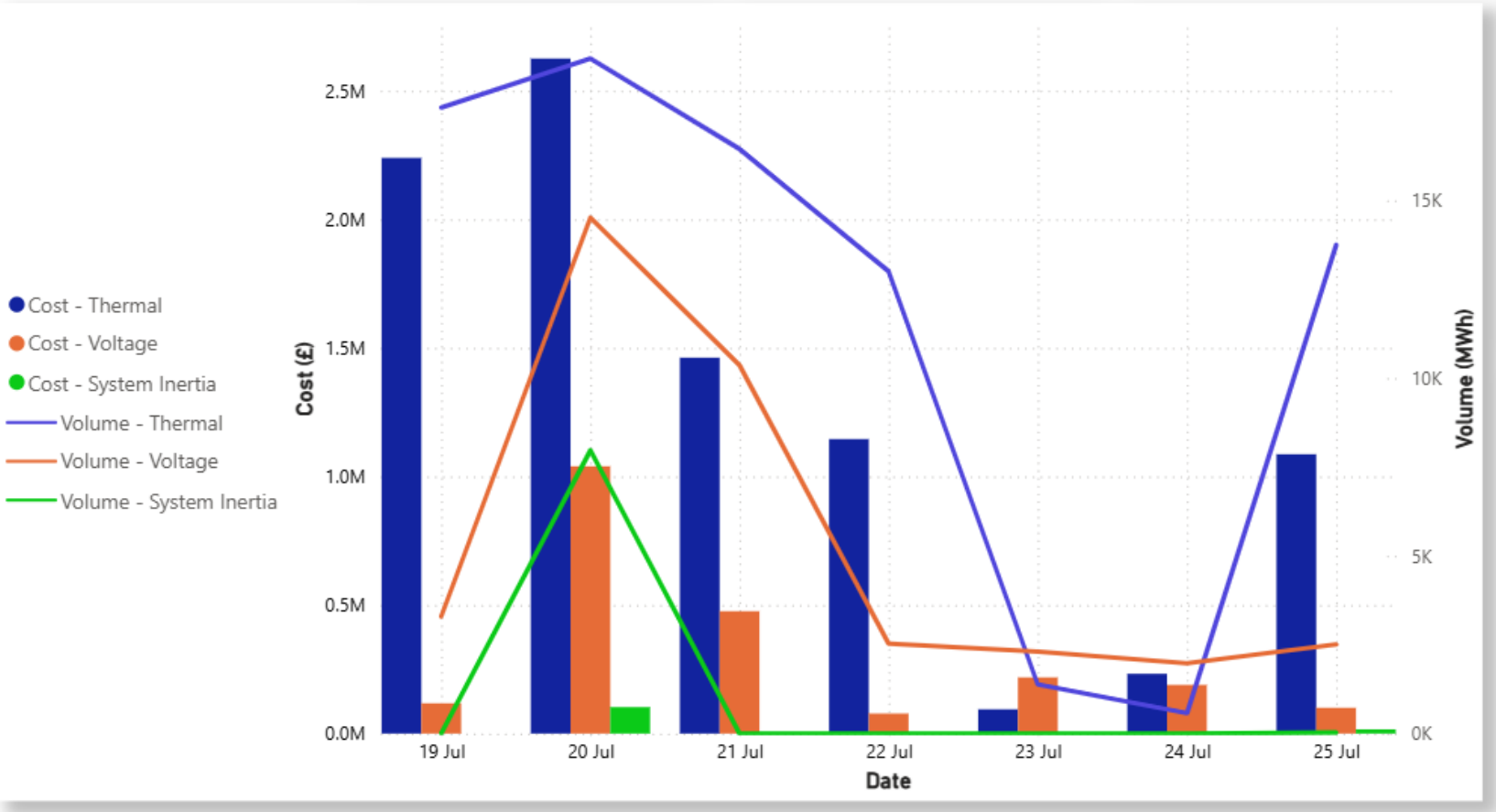


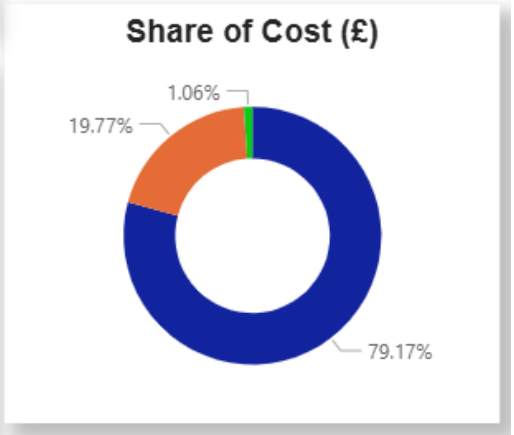
NESO Actions | Constraint Cost Breakdown

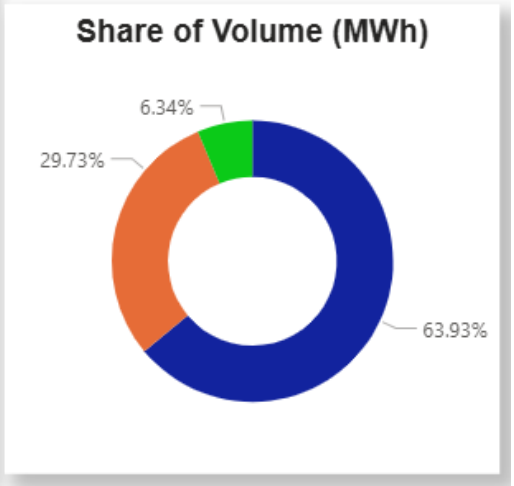
Slido code #OTF

Date
19/07/2025 25/07/2025

Thermal Constraints		Voltage Constraints		System Inertia	
Costs (£)	Vol (MWh)	Costs (£)	Vol (MWh)	Costs (£)	Vol (MWh)
8.89M	80.63K	2.22M	37.50K	119.17K	8.00K







Note: Thermal Constraint volume is reported as an absolute figure.

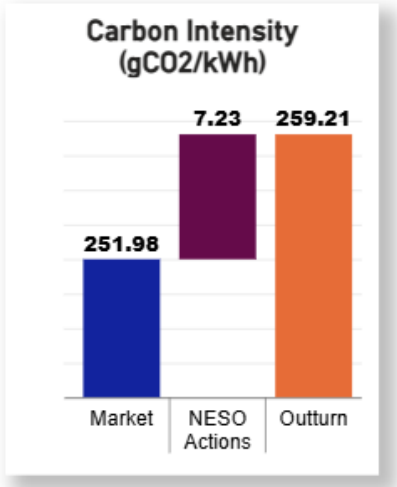
NESO National Energy System Operator

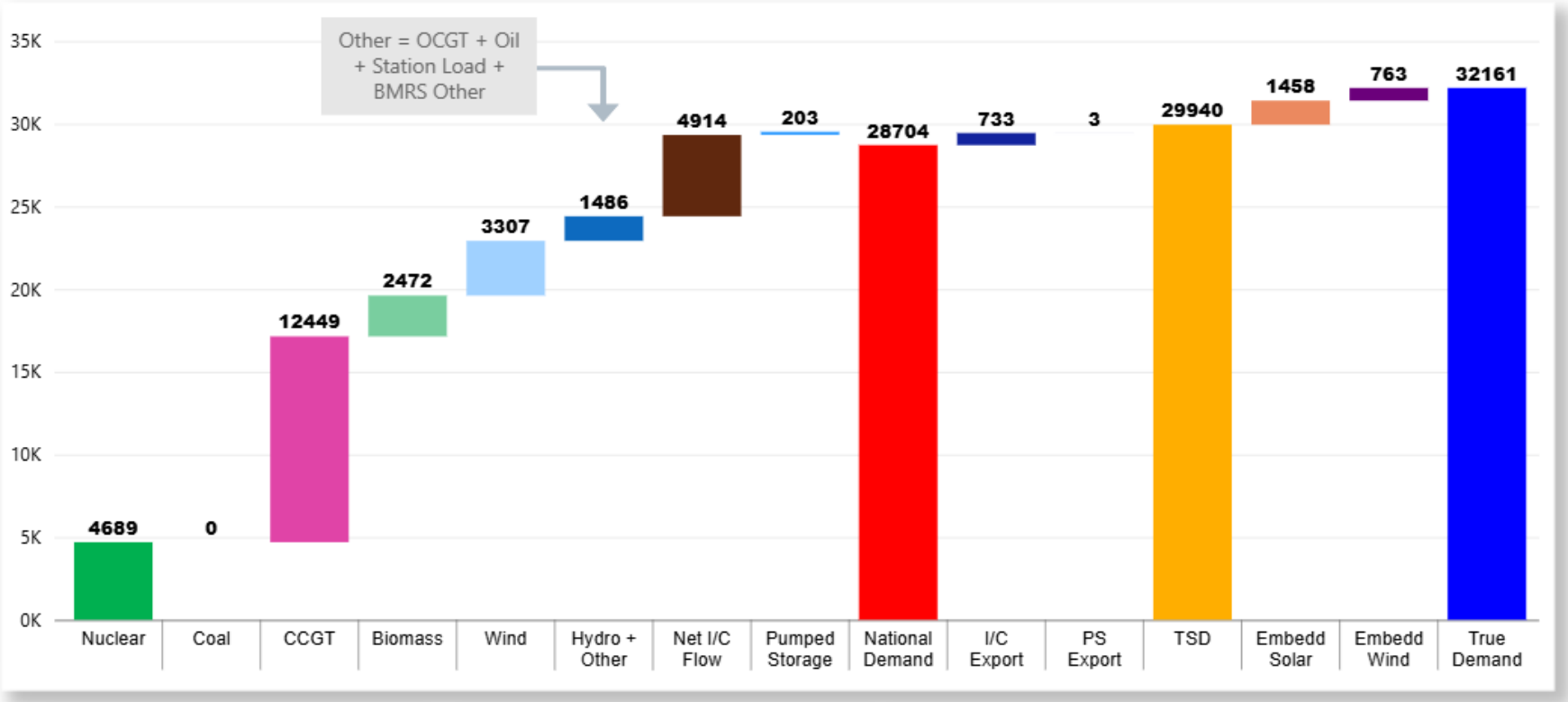
NESO Actions | Peak Demand – SP spend ~£37k
Monday 21st July

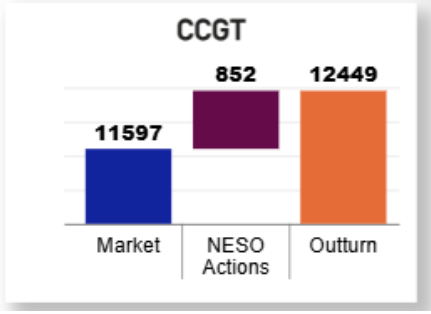
Slido code #OTF

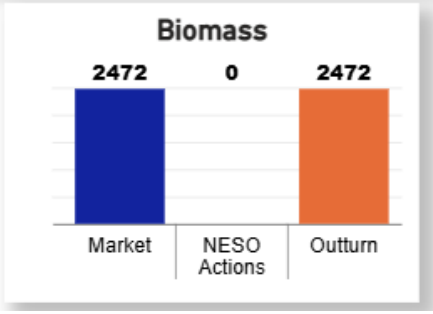
Date: 21 July 2025 | SP: 39

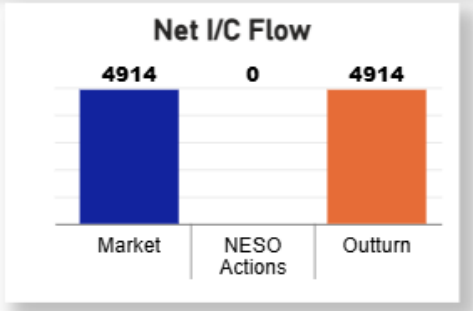
Half-hour preceding
19:30

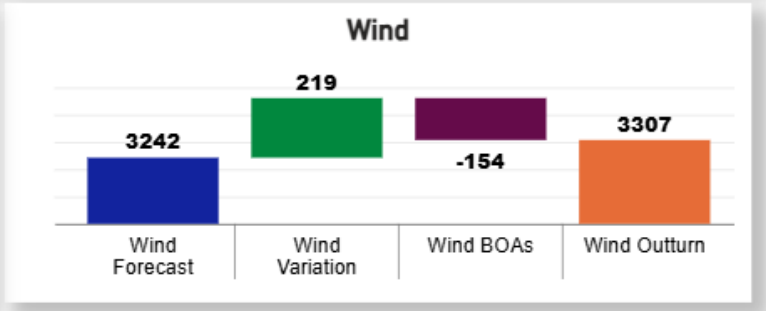












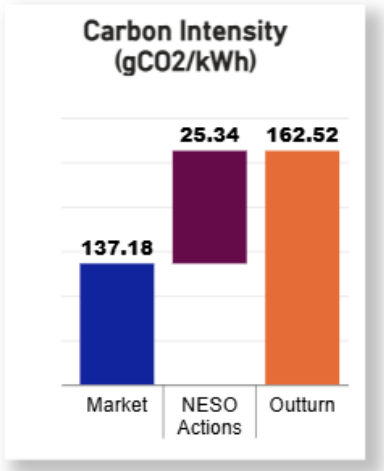
NESO Actions | Minimum Demand – SP spend ~£111k
Sunday 20th July

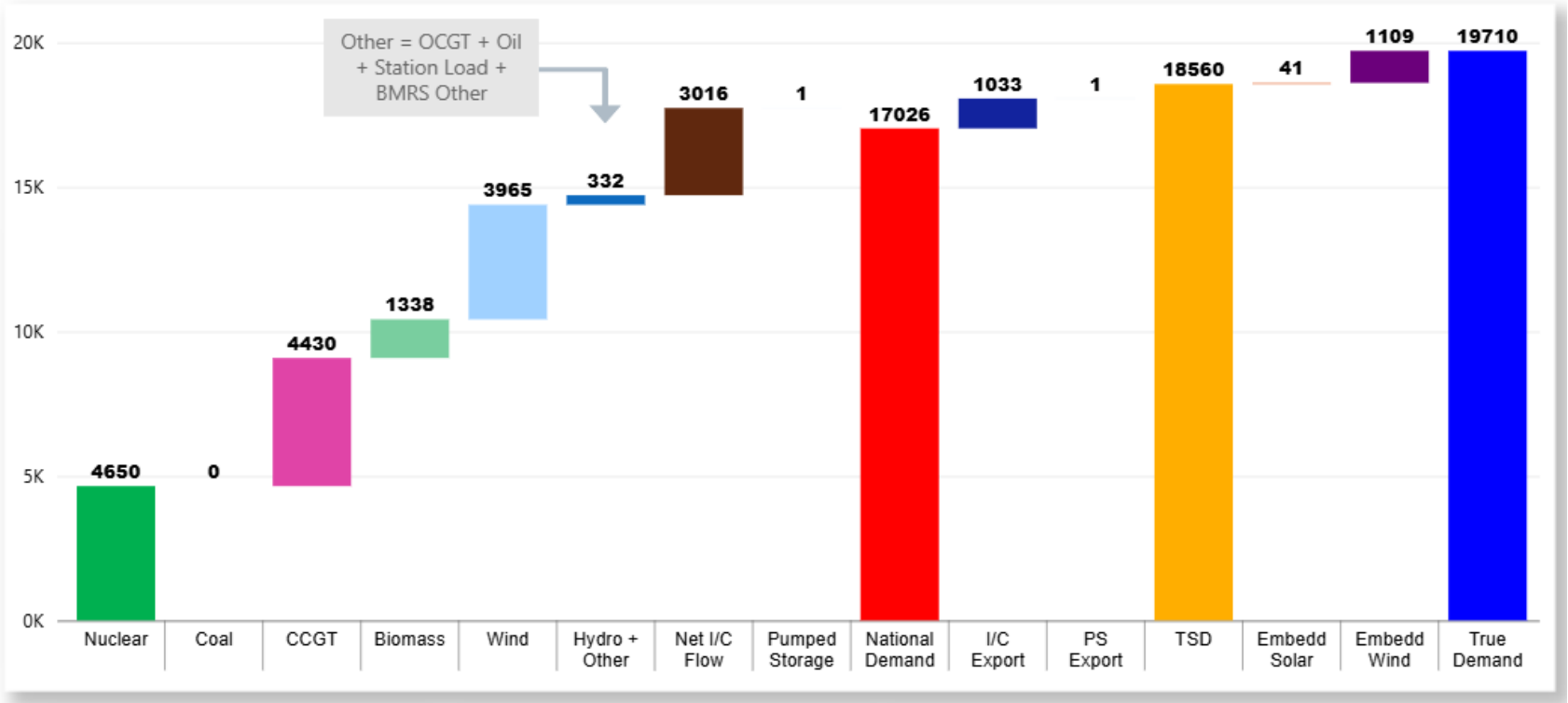
Slido code #OTF

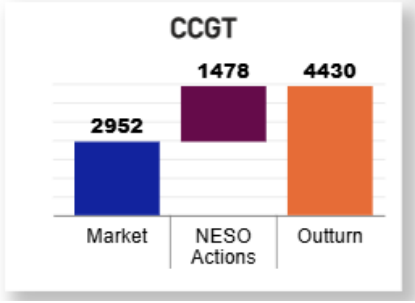
Date: 20 July 2025

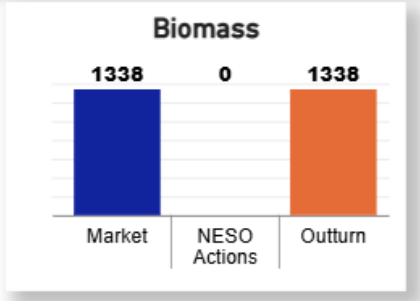
SP: 12

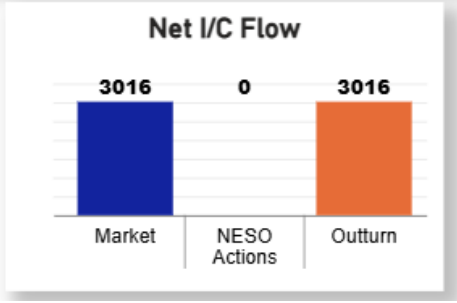
Half-hour preceding
06:00

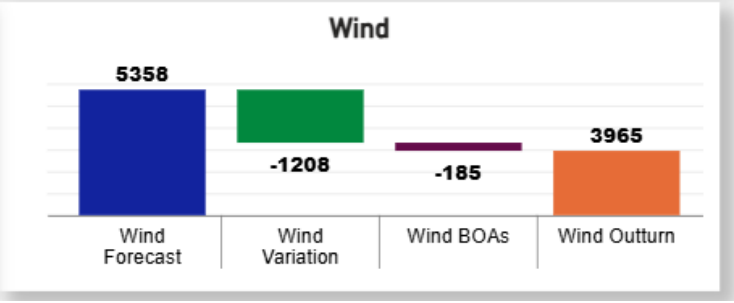












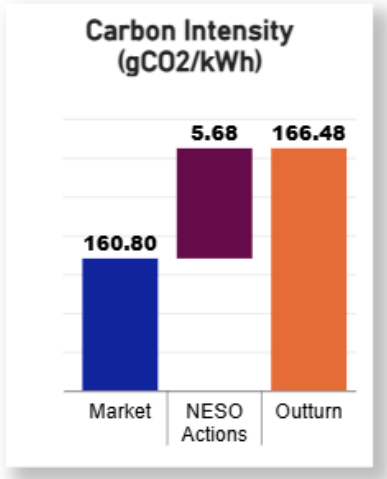
NESO Actions | Highest SP spend ~£151k

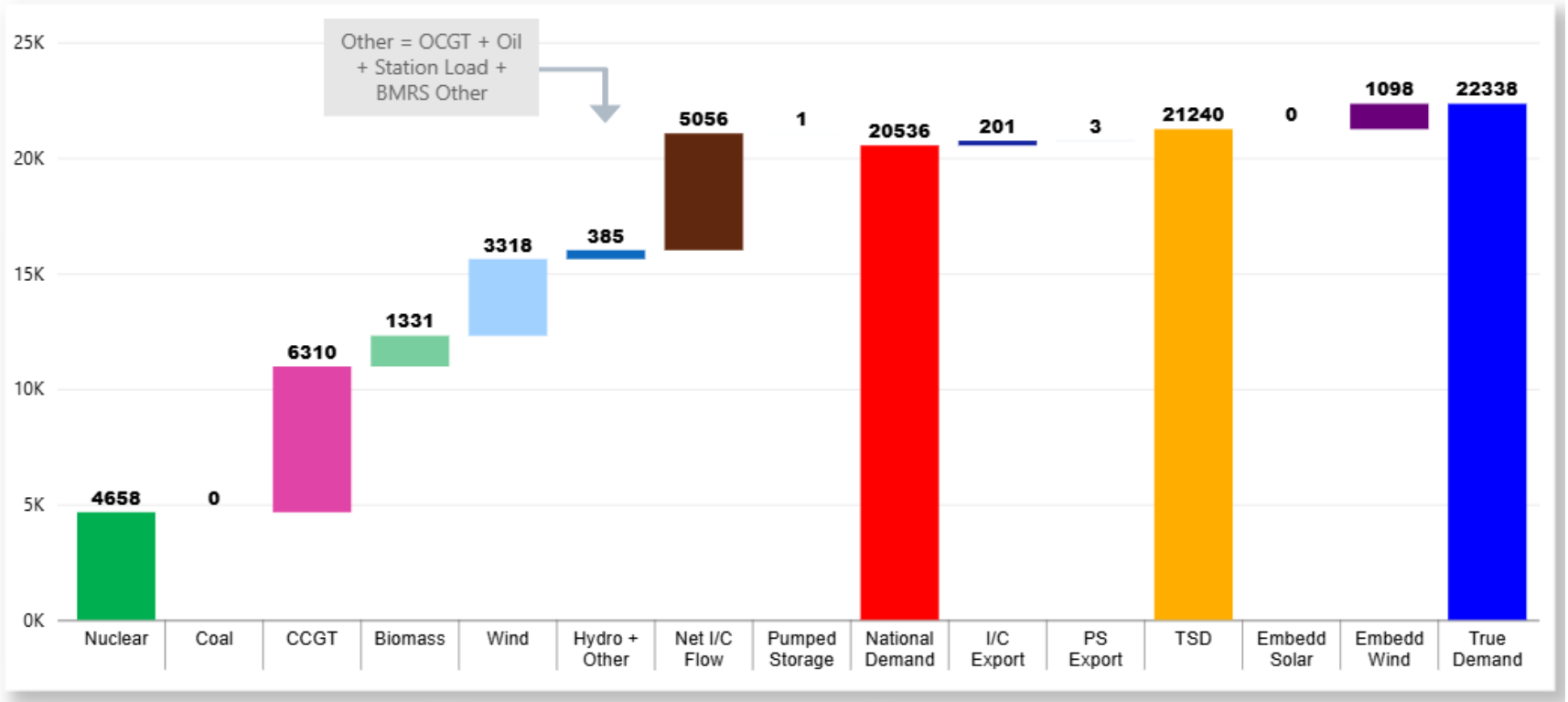
Slido code #OTF

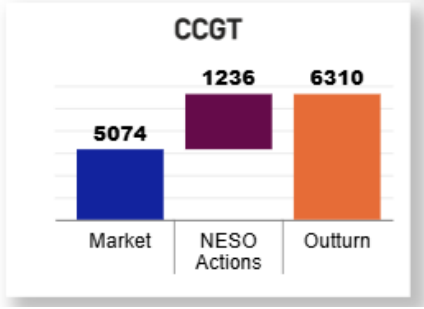
Date: 20 July 2025

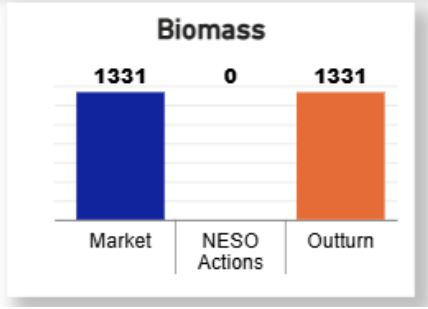
SP: 2

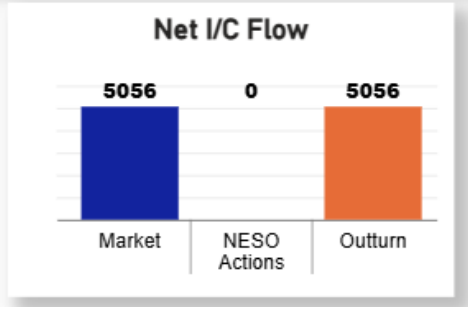
Half-hour preceding: 01:00

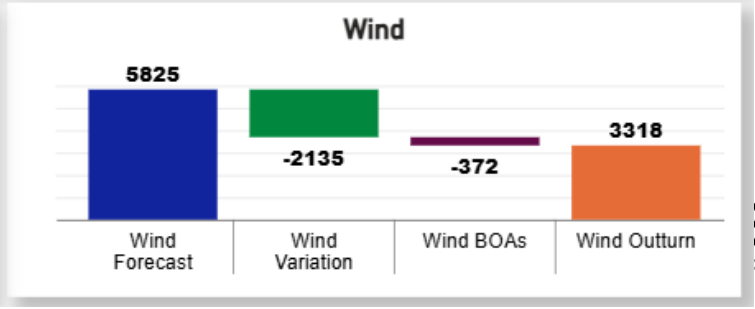












Skip Rates – 'In Merit' datasets

We recognise that these datasets aren't as intuitive as they could be – specifically the column headings. Please be reassured that we are looking at ways to improve this - we will update the documentation to include this information and will also discuss the datasets in more detail at the webinar on 27th February.

We will use 'accepted' and 'instructed' differently in this context, even though they are normally the same.

These datasets show the units that should have been instructed if decisions were solely based on price, rather than all units that were instructed. Therefore this dataset does not match the total accepted volume datasets in Elexon.

In Merit Volume = Accepted Volume + Skipped Volume

In Merit Volume
- This is the recreated in merit stack showing the lowest cost units that were available to meet the requirement, where the requirement is based on the volume of units that were actually instructed
- Therefore this is the volume that should have been accepted if decisions were solely based on price
- The sum of this column is the total instructed volume in the 5 minute period (subject to the relevant exclusions)

Accepted Volume
- This is the volume that was accepted in merit, as a subset of the 'In Merit Volume' column – i.e. how much volume was accepted in merit
- The sum of this column will be less than the sum of the 'In Merit Volume' column, unless there is no skipped volume
- Note: this column does not list all instructed units

Skipped Volume
- This is the volume that was skipped, as a subset of the 'In Merit Volume' column – i.e. of the volume that we should have instructed, how much was skipped

It's possible that the list of units increases, decreases, or stays the same between stages, but the total 'In Merit Volume' will always remain the same (or no volume is excluded) or decrease (due to exclusions).

Skip Rates by Technology Type – Bids

Slido code #OTF

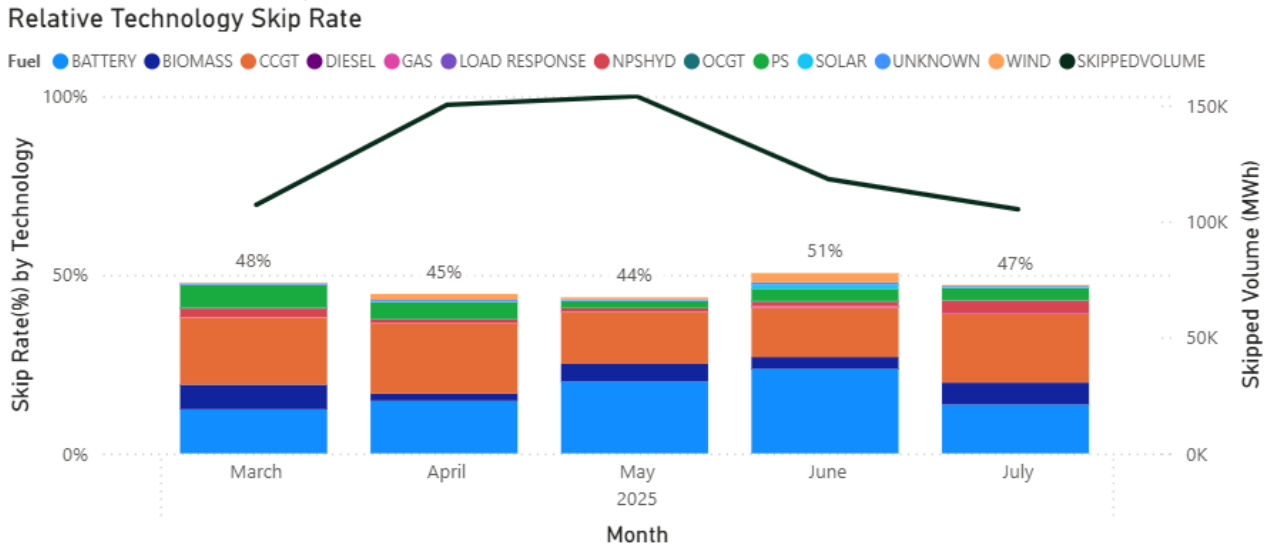
The current skip rate methodology only considers energy actions within the BM

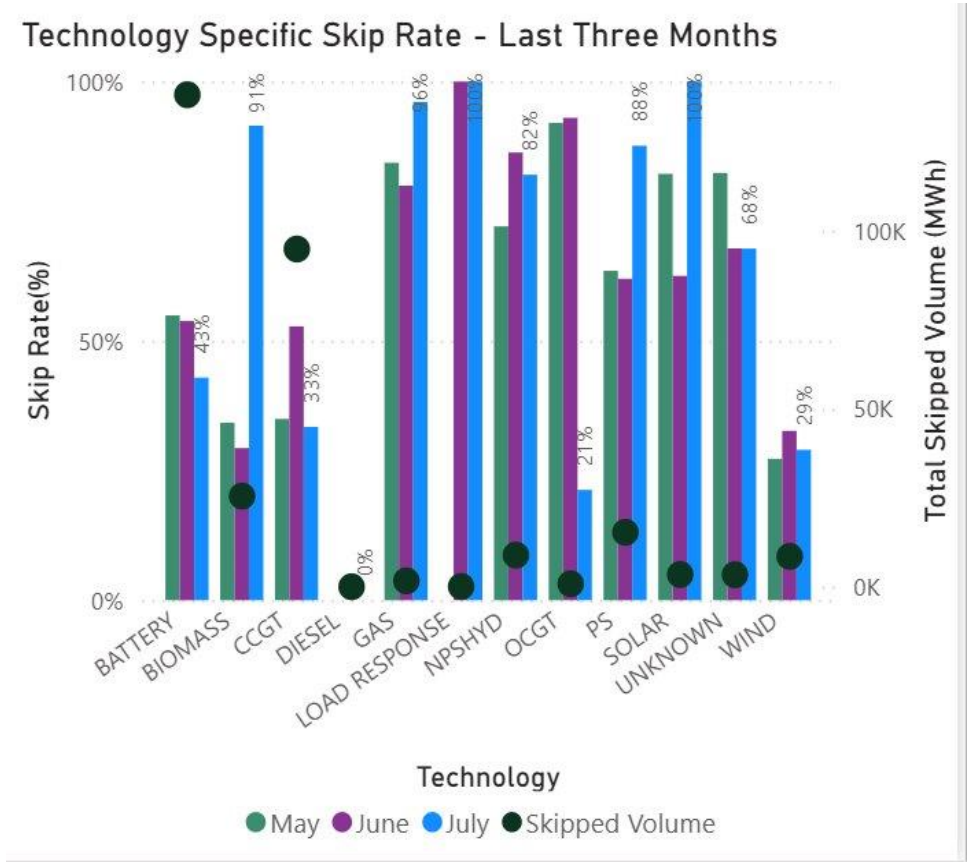
We have added skip rate by technology type to our 4-week rolling summary. We welcome your comments on if you find this valuable and feedback on how we present this data.

These graphs are based on stage 5 of the PSA definition.

Weekly Average w/e	Bids - All BM	Bids - PSA
13/07	14%	58%
20/07	13%	47%
27/07	19%	47%
03/08	19%	40%

Relative Technology Skip Rate





Gas: Gas reciprocating units
NPSHYD: Non-Pumped Storage Hydro
PS: Pumped Storage

Contact us on box.SkipRates@neso.energy

Skip rate data and more info on skip rates including methodology can be found on our website.

Skip Rates by Technology Type – Offers

Slido code #OTF

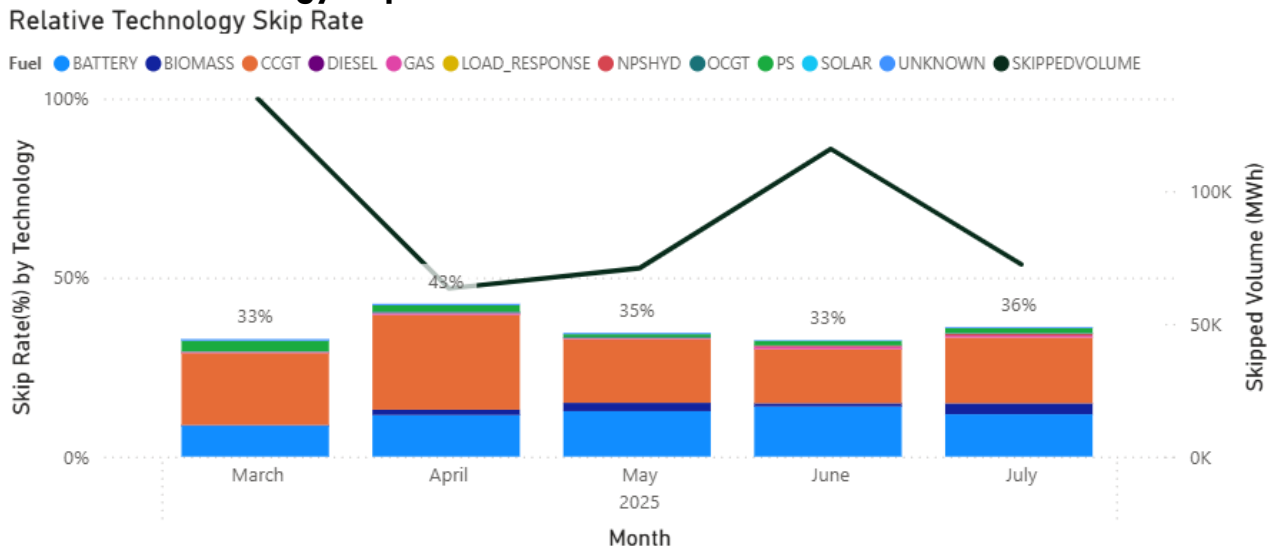
The current skip rate methodology only considers energy actions within the BM

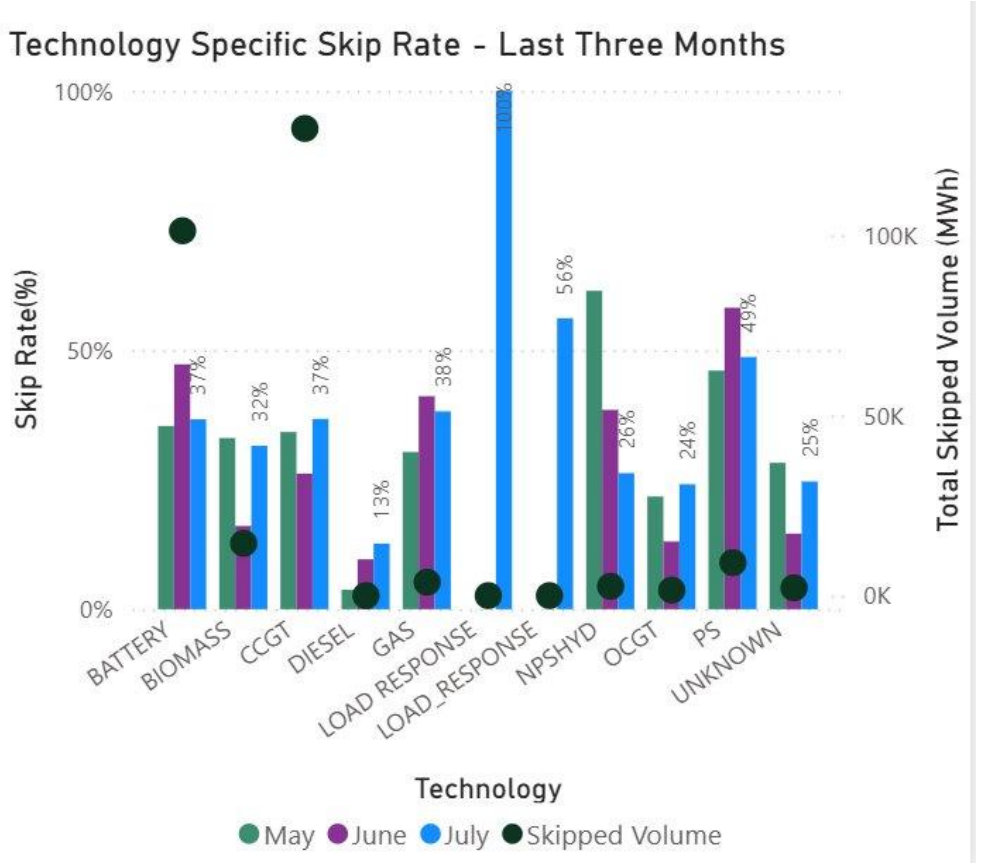
We have added skip rate by technology type to our 4-week rolling summary. We welcome your comments on if you find this valuable and feedback on how we present this data.

These graphs are based on stage 5 of the PSA definition.

Weekly Average w/e	Offers - All BM	Offers - PSA
13/07	19%	38%
20/07	16%	35%
27/07	14%	34%
03/08	7%	37%

Relative Technology Skip Rate





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Contact us on box.SkipRates@neso.energy

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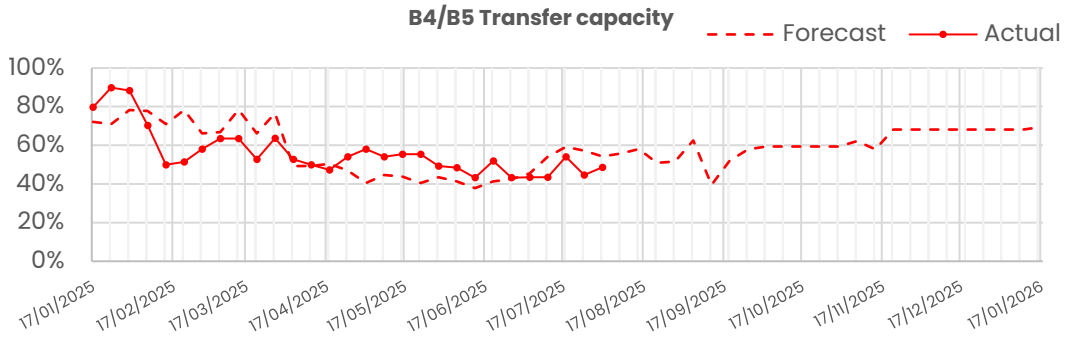
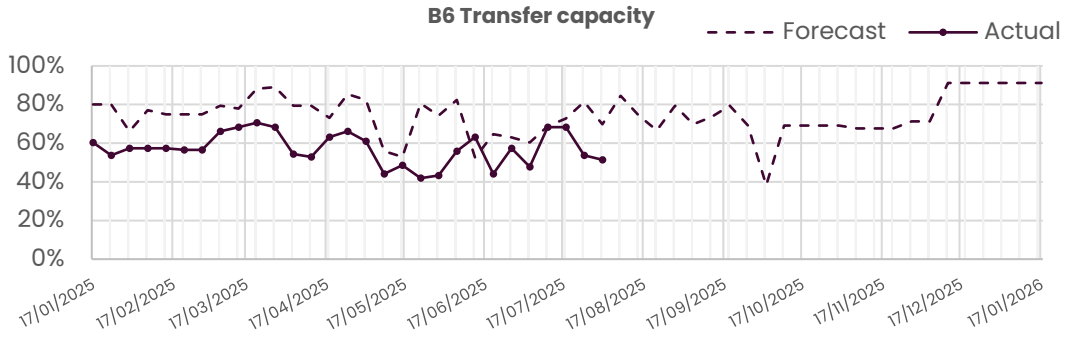
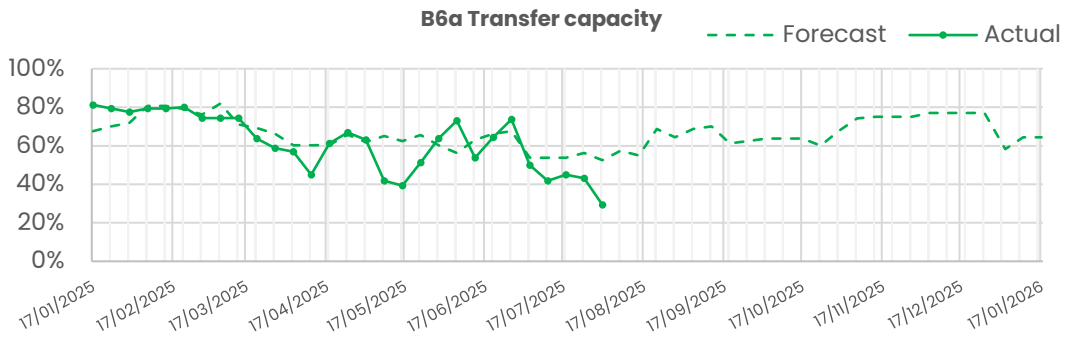
Transparency | Network Congestion

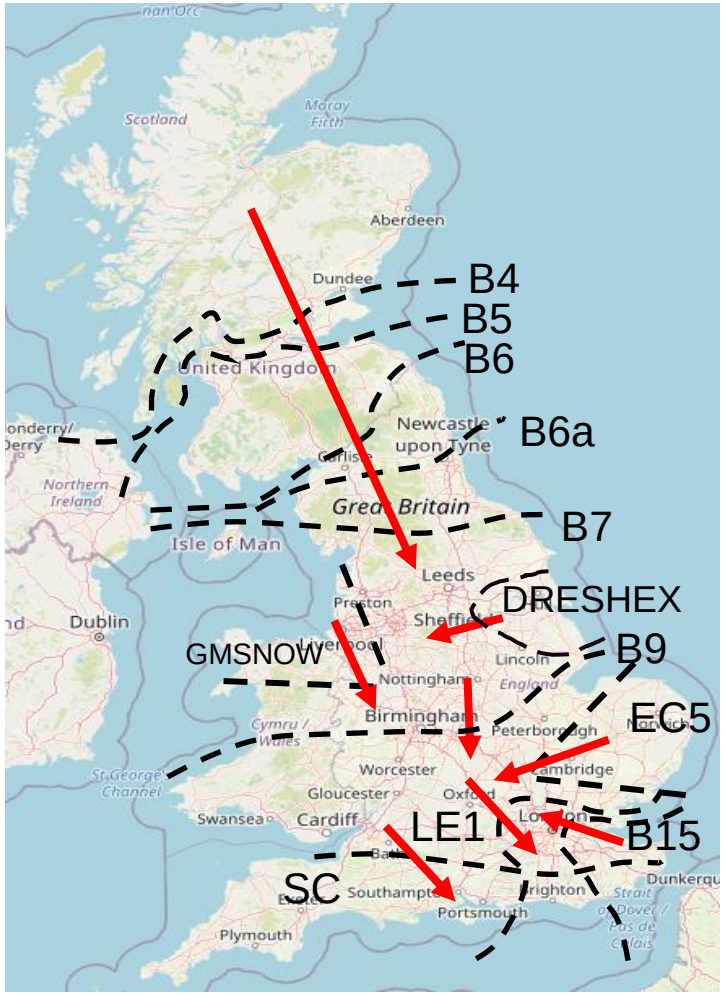
Slido code #OTF



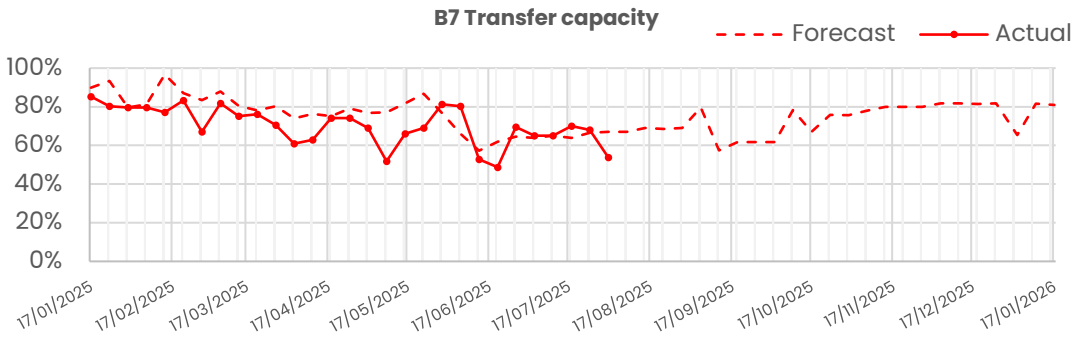


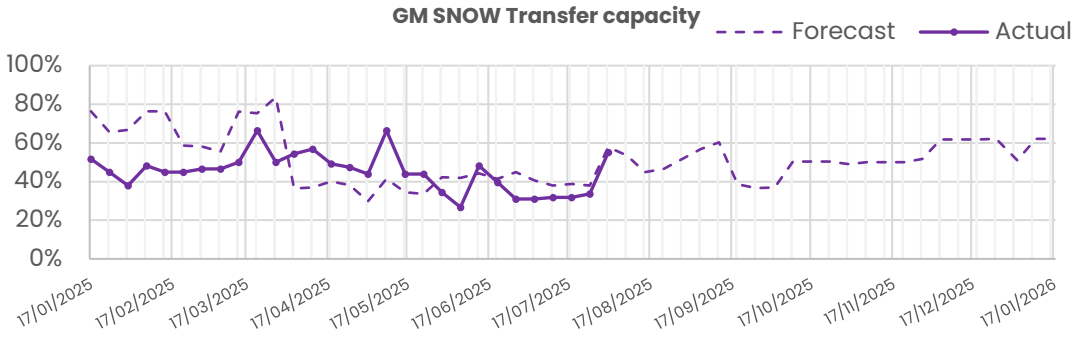


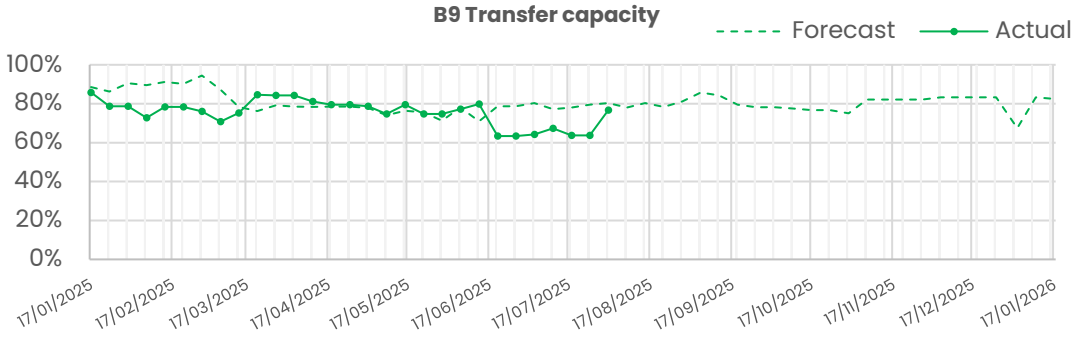
Boundary	Max. Capacity (MW)	Current Capacity (%)
B4/B5	3400	49%
B6 (SCOTEX)	6800	51%
B6a	8000	29%
B7 (SSHARN)	9850	54%
GMSNOW	5800	55%
FLOWSTH (B9)	12700	77%
DRESHEX	9675	57%
EC5	5000	51%
LE1 (SEIMP)	8750	56%
B15 (ESTEX)	7500	86%
SC1	7300	100%



Transparency | Network Congestion







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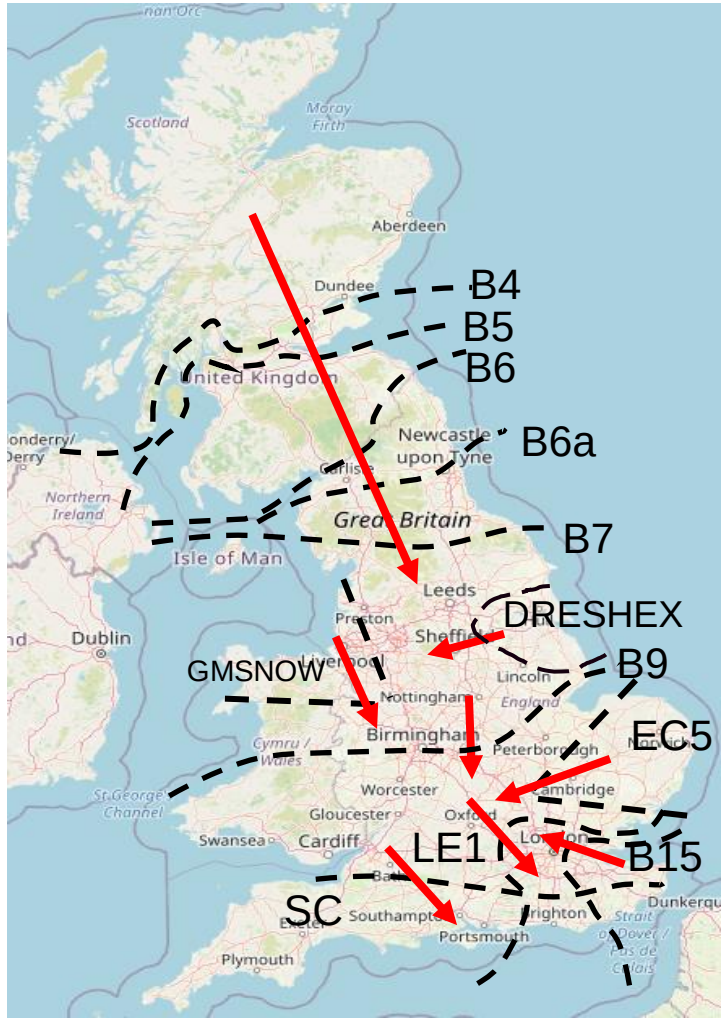
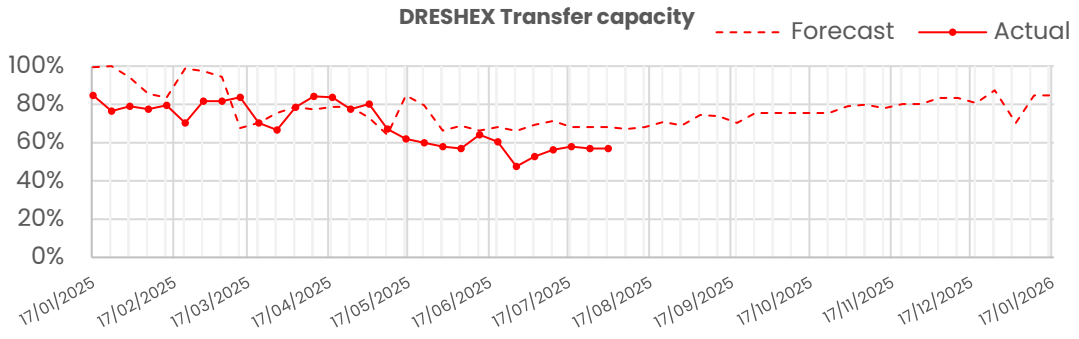
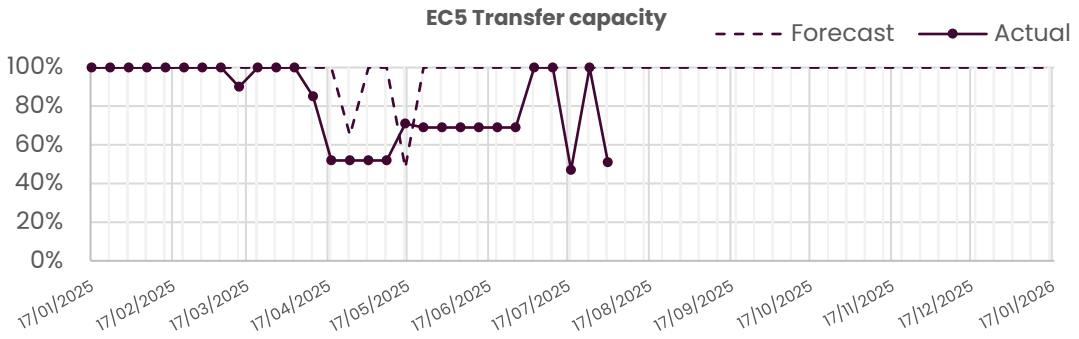
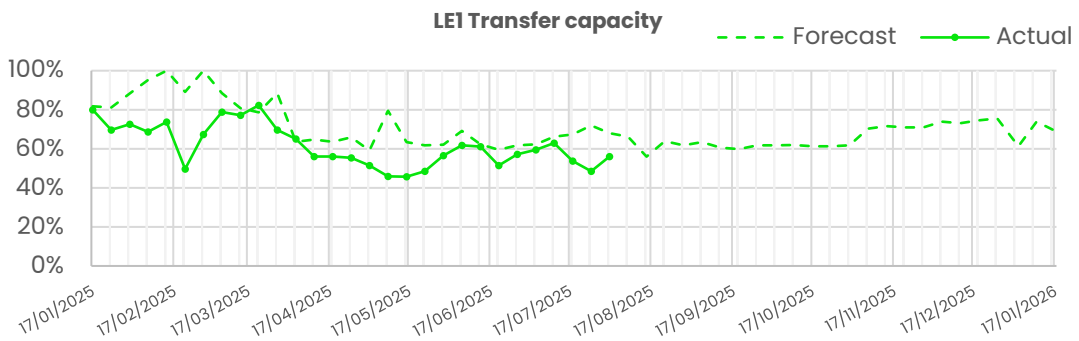
Slido code #OTF



Transparency | Network Congestion







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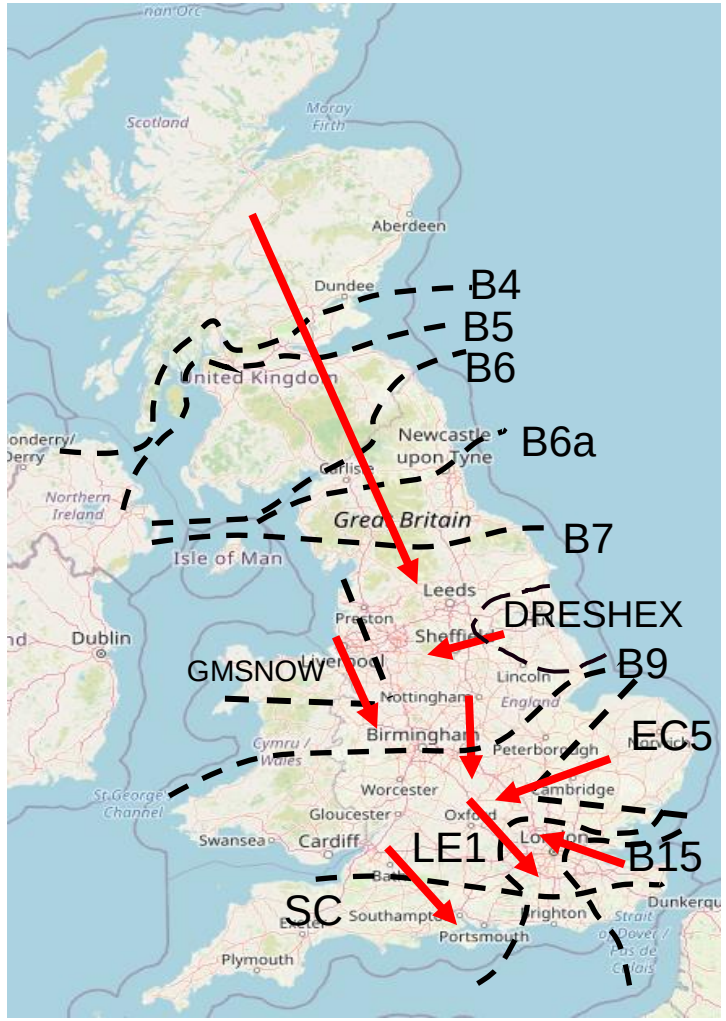
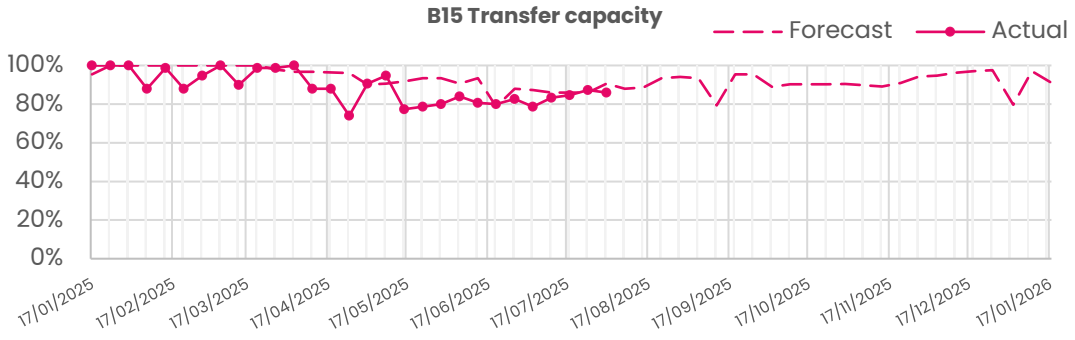
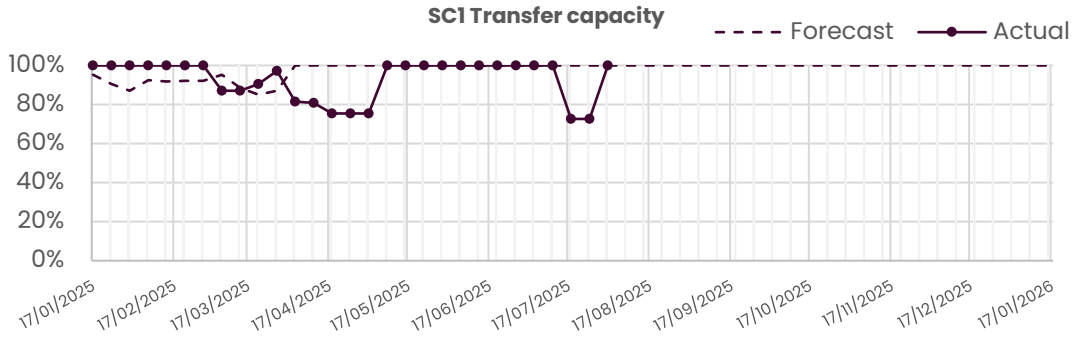
Slido code #OTF



NESO
National Energy System Operator

Transparency | Network Congestion





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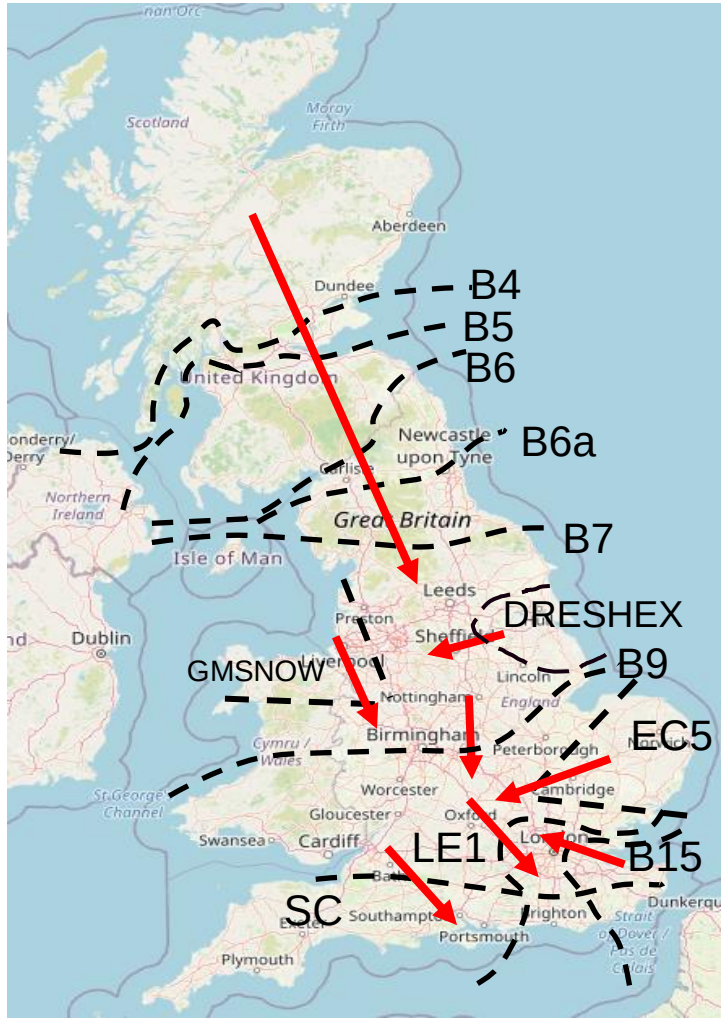
Slido code #OTF



Day ahead flows and limits, and the 24-month constraint limit forecast are published on the ESO Data Portal: Constraints Management

(The forecast and day ahead limits may vary due to changes in the outage plan. The plan is reviewed periodically throughout the year to ensure we are optimising system conditions, whilst managing any necessary outage plan changes)

NESO National Energy System Operator