

A landscape photograph featuring snow-capped mountains under a cloudy sky. In the foreground, several bright yellow light trails curve across a valley. The overall scene is illuminated by a warm, golden light, likely from a low sun.

ESO Operational Transparency Forum

17 August 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

- System Events
- Demand review
- Costs for last week
- Constraints
- Questions from last week

Focus Areas:

- Winter Contingency Contracts
- Dynamic Flex Service Update
- Issued Capacity Market Notices (CMN) and ESO decision making in operational timescales

Future deep dive/ response topics

Upcoming soon:

Inertia deep dive – 24th August

Carbon intensity deep dive – 31st August

ESO Trading on Interconnectors - September

New data:

The BSUoS outturn for July and BSUoS forecast for September are now on the ESO data portal. We recognised the mod CMP395 to cap BSUoS costs and defer payment to 2023/24 has been raised. We will continue to update OTF on the progression of this change and any impacts to our forecasts.

Items we have taken away and will come back to this forum on in the future

REMIT obligations on ESO

Feedback welcomed on our proposed deep dive topics

Questions outstanding from previous weeks

Sli.do code #OTF

Q: Please could someone point me in the direction of where the coal contracts going into cashout at £0/MW has been outlined?
Thanks

Q:C16 consultation has dispatch decisions for winter contingency contracts - can you now summarize how these would work in the next OTF?

Q: With the coal offers being priced at £0/MWh and system flagged, if any other offer is taken then the coal is going to get re-flagged as energy meaning that the system could cash out at £0 in periods of enormous scarcity. Is this an oversight that will be rectified? Sorry if my understanding is wrong.

A: For information on the winter contingency contracts which have been included in our C16 consultation please refer to the consultation documents published on our [C16 website](#), here you can find the tracked changes documents, System Management Action Flagging (SMAF) Methodology and Balancing Principles Statements which are published as part of this additional C16 consultation review.

We have aimed to answer the above questions from previous OTFs in our winter contingency contracts slides and will add written answers to our Q&A log which is published on the [ESO Data Portal](#).

Winter Contingency Contracts

In response to the disruption of gas supplies to Europe following Russia's invasion of Ukraine, the Secretary of State approached ESO to secure additional non-gas capacity over winter 22/23. This capacity needs to be capable of generate significant amounts of electricity should it be needed to ensure electricity security of supply.

To date, we have contracted with 4 coal units (1,940MW) that were due to cease commercial operation ahead of this winter and continue in discussions with a 5th.

- 2 x 400MW units at West Burton A
- 2 x 570MW units at Drax

These units will be available until 31 March 2023 and across the potential 5 units there will be the capability to generate in the region of 1-2 TWh.

To do this we are paying the generators to make the assets available on an open-book basis. This covers elements such as maintenance, staffing and coal procurement but excludes the cost of carbon credits. At the end of the contracts any remaining coal stocks will be sold back to the open market.

Winter Contingency Contracts

Costs

The cost of the winter contingency contracts will be recovered through BSUoS between 01/10/22 and 31/03/23

- The cost will be spread equally between these days
- Any costs recovered from selling unused coal stocks will be returned to BSUoS payers through subsequent Reconciliation Final (RF) runs
- We expect the up front cost to be in the region of £220m to £420m subject to the procurement and use of the coal
 - There are two significant variables in this cost range:
 - If a 5th unit is secured
 - The level of coal procured
- We will publish an updated BSUoS forecast that includes the forecast cost of these contracts

Winter Contingency Contracts

Dispatch

The units contracted will not be available to the open market and will only be dispatched at the request of ESO

- These contracts are only intended to be used when we anticipate to exhaust all commercial options within the Balancing Mechanism
 - This could be in response to a generation shortfall over an extended period of time or a short-term margin issue
- All despatch action of units under the 2022/23 winter contingency service will be tagged as a system flagged BOA and be priced at £0/MWh
- We will inform the market through normal channels when an action is taken to warm the contracted units through these contracts

Regulation

On 8th August, we launched a consultation on changes to the Balancing Principles (BPS) and System Management Action Flagging Methodology (SMAF) C16 Statements to enable the use of these contracts as intended.

www.nationalgrideso.com/industry-information/codes/balancing-settlement-code-bsc/c16-statements-and-consultations

Flexibility Service Update – signpost to workshop

- Following successful trials carried out with Octopus Energy earlier this year, which demonstrated that consumers want to engage in the power market when incentives are offered. The ESO is looking to develop a service with industry to replicate the mechanisms of this trial at scale.
- We're inviting industry to join the ESO at a virtual forum to learn about the forthcoming consultation on Thursday 18th August (tomorrow), 11am – 1pm via Teams
- The ESO will provide an update on how we're proposing to unlock the potential of demand side flexibility for consumers this winter within the current market conditions and invite your views.
- We want to hear your feedback at this stage of the process, and you'll also have a chance to ask questions to the National Grid ESO team.
- Please complete the online registration form using this link to confirm your attendance.

[Pre-consultation Workshop - National Winter Demand Flexibility \(office.com\)](#)

- If you have any questions or comments, then please let us know by emailing box.esoconsumer@nationalgrideso.com

What is a Capacity Market Notice?

The Capacity Market Notice (CMN) process commenced on 01 October 2016

A CMN is a signal four hours in advance that demand may exceed generation on the electricity transmission system, or that a system stress event has occurred for which a CMN was not in place

CMNs are published automatically on a dedicated website, with email and text alerts issued to subscribers (<https://gbcmn.nationalgrid.co.uk>)

A CMN is not a dispatch tool for Capacity Market participants to take specific action

Intended to be an indication to Capacity Providers that the risk of a System Stress Event is higher than under normal circumstances



Please note this slide was not presented at the 17/08/22 OTF but is included to give background information and context for Capacity Market Notices

How is a Capacity Market Notice triggered?

Triggers for a CMN:

- SO Instigated Demand Control Event Occurs where a CMN is not already in force*
- Inadequate System Margin forecasted

Inadequate System Margin is triggered where:

forecast generation is less than
 forecast demand +
 operating margin +
 500MW

Contents of Capacity Market Notice:

Electricity Capacity Market Notice Currently Active

Posted by National Grid (System Operator) at 12:06pm on Monday 7th November 2016

Commencement time of notice	4:30pm on Monday 7th November 2016
Circumstances that triggered notice	Margin below threshold set out in Capacity Market Rules
Transmission Demand and Operating Margin (MW)	48,265
Aggregate Capacity of BM Units expected (MW)	48,178
Additional Capacity (MW)	No definitive information regarding additional capacity is currently available to the System Operator.

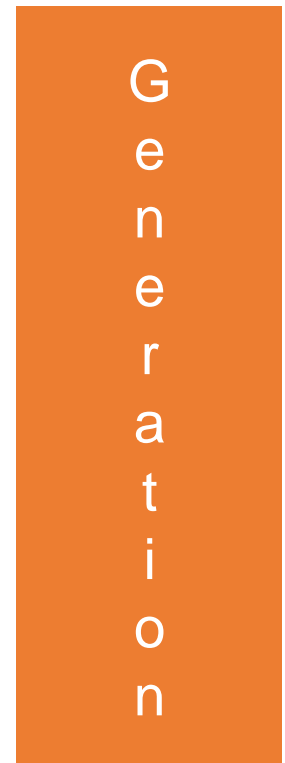
Capacity Market participants are advised to review the System Warnings page on [BMRS](#) for potential additional operational warnings from the System Operator. This notice is published pursuant to Rule 11.3.5 of the [Capacity Market Rules](#)

Please note this slide was not presented at the 17/08/22 OTF but is included to give background information and context for Capacity Market Notices

No CMN
Triggered



CMN
Triggered



*Other than where the action has a system management flag attached - CM Rules 8.4.2 (iii)

What is a System Stress Event?

A Settlement Period in which a **System Operator Instigated Demand Control Event** occurs where such event **lasts at least 15 continuous minutes**

Where the event falls across multiple consecutive Settlement Periods, each of those Settlement Periods will be a System Stress Event

System Operator Instigated Demand Control Events:

- Demand Reduction Instruction and/or an Emergency Manual Disconnection Instruction*
- Automatic Low Frequency Demand Disconnection*

If a **CMN is not issued at least four hours before** a System Stress Event occurs, then Capacity Providers **will not be penalised** for failing to meet their obligations during the event

If a **CMN is issued at least four hours ahead** of a Settlement Period in which a System Stress Event takes place, Capacity Providers **will face penalties** if they do not deliver their Adjusted Load Following Capacity Obligation during the System Stress Event.

Please note this slide was not presented at the 17/08/22 OTF but is included to give background information and context for Capacity Market Notices

*Subject to exceptions stated in CM Rules 8.4.2

Electricity Margin Notice (EMN)

What is an Electricity Margin Notice and how is it triggered?

If we can see that our normal safety margin for operating the system is not as big as we'd like, and we can't address it through the normal mechanisms, then we would consider issuing an **Electricity Margin Notice (EMN)**.

This doesn't mean we don't have enough electricity to meet demand; it just means we'd like a larger cushion of spare capacity, and we want the market to provide it.

EMNs are issued by our control room using operational and engineering judgements, and are based on our experts' experience, skill and knowledge of managing the electricity system (and taking account of a range of factors they have a live view of in the control room).

An EMN may be issued when:

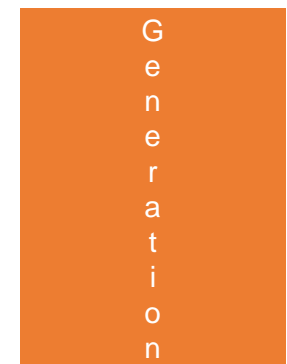
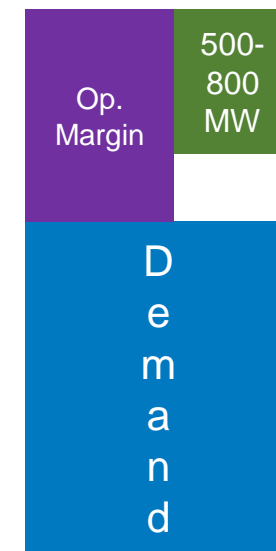
forecast generation is less than
forecast demand +
operating margin -
500-800MW

Depending on operational and engineering judgement.

No EMN
Issued

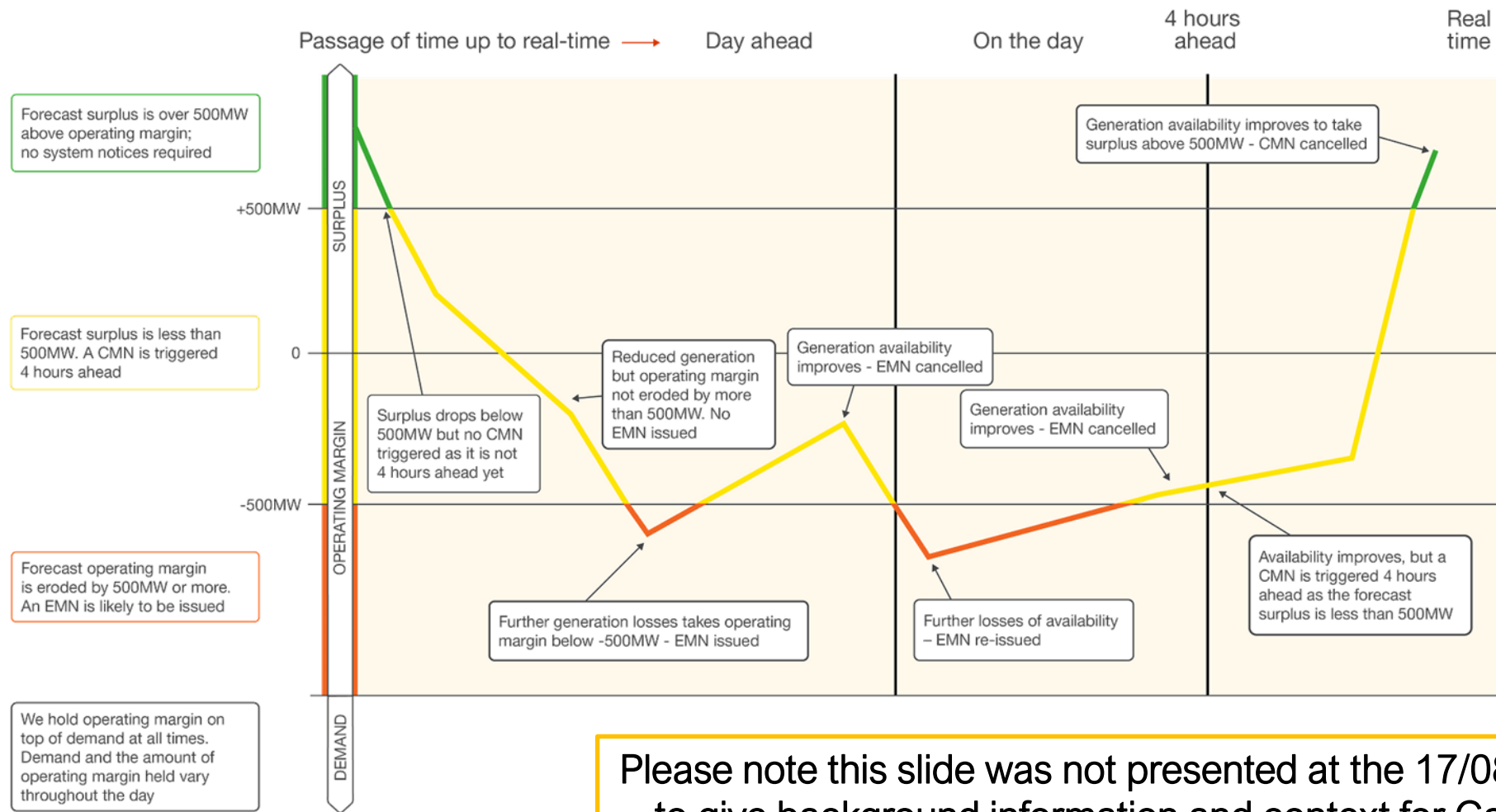


EMN
Issued



Please note this slide was not presented at the 17/08/22 OTF but is included to give background information and context for Capacity Market Notices

CMN/ EMN Timeline example



Please note this slide was not presented at the 17/08/22 OTF but is included to give background information and context for Capacity Market Notices

EMN = Electricity Margin Notice
 CMN = Capacity Market Notice

Comparison of CMN and Electricity Margin Notice (EMN)

CMN	vs	EMN
Automated	Trigger	Manual
500MW above margin requirement	Threshold	500-800MW below margin requirement
Not included	Constraints	Included
4 hours out (for initial alert)	Lead time	Flexible
CM Agreement holders put on notice that risk of System Stress Event is elevated	Expected response	Provision of additional energy where possible
Capacity Market Notices Website	Publication	Balancing Mechanism Reporting Service
Aimed at CM agreement holders	Focus	Operationally focused

separate and not sequential

CMNs issued on 18 July 2022

Electricity Capacity Market Notice Currently Active

Posted by National Grid Electricity System Operator at 2:34pm on Monday 18th July 2022

Commencement time of notice	7:00pm on Monday 18th July 2022
Circumstances that triggered notice	Margin below threshold set out in Capacity Market Rules
Transmission Demand and Operating Margin (MW)	35,228
Aggregate Capacity of BM Units expected (MW)	35,722
Additional Capacity (MW)	No definitive information regarding additional capacity is currently available to the Electricity System Operator.

Change in market data in next half hour meant that sufficient margin was available and the CMN was automatically cancelled.

Electricity Capacity Market Notice Cancelled

Posted by National Grid Electricity System Operator at 3:05pm on Monday 18th July 2022

The Capacity Market Notice originally active from 7:00pm on Monday 18th July 2022 has been cancelled from 7:00pm on Monday 18th July 2022

Electricity Capacity Market Notice Currently Active

Posted by National Grid Electricity System Operator at 3:34pm on Monday 18th July 2022

Commencement time of notice	8:00pm on Monday 18th July 2022
Circumstances that triggered notice	Margin below threshold set out in Capacity Market Rules
Transmission Demand and Operating Margin (MW)	35,140
Aggregate Capacity of BM Units expected (MW)	35,592
Additional Capacity (MW)	No definitive information regarding additional capacity is currently available to the Electricity System Operator.

A large volume of trading actions were taken to resolve the tight margin situation seen operationally. We were confident that we had sufficient reserve to operate the system without the CMN remaining active and were aware that a large volume of generation could suddenly dispatch to meet their capacity market contracts.

The CMN was manually cancelled, hence why the CMN was cancelled only 10 minutes prior to coming live and why the format of the cancellation was different.

Message from Electricity System Operator

Posted by National Grid Electricity System Operator at 7:51pm on Monday 18th July 2022

The Capacity Market Notice originally active from 8:00pm on Monday 18th July 2022 has been cancelled from 7:40pm on Monday 18th July 2022.

CMN issued 11 August 2022

Once a CMN is issued, the calculation looks at every intervening settlement period every 30mins. Only when all settlement periods have >500MW capacity will the CMN be cancelled. Only one CMN is active at a time so it keeps the original active rather than raising a new one.

Electricity Capacity Market Notice Cancelled

Posted by National Grid Electricity System Operator at 5:05pm on Thursday 11th August 2022

The Capacity Market Notice originally active from 6:00pm on Thursday 11th August 2022 has been cancelled from 5:30pm on Thursday 11th August 2022

Electricity Capacity Market Notice Currently Active

Posted by National Grid Electricity System Operator at 1:34pm on Thursday 11th August 2022

Commencement time of notice	6:00pm on Thursday 11th August 2022
Circumstances that triggered notice	Margin below threshold set out in Capacity Market Rules
Transmission Demand and Operating Margin (MW)	35,338
Aggregate Capacity of BM Units expected (MW)	35,511
Additional Capacity (MW)	No definitive information regarding additional capacity is currently available to the Electricity System Operator.

Capacity Market participants are advised to review the System Warnings page on [BMRS](#) for potential additional operational warnings from the Electricity System Operator. This notice is published pursuant to Rule 8.4.6 / 11.3.5 of the [Capacity Market Rules](#)

Participants are also advised to pay close attention to [De-rated Margin](#) (DRM) information on the BMRS website that will be updated 3 times (4 hour, 2 hour and 1 hour ahead) in advance of the "commencement time" of this Capacity Market Notice.

Automatically issued at 13:34 for 18:00 (SP37)

Automatically cancelled 17:07 when capacity for all intervening settlement periods >500MW

From before the CMN was issued, our control room and trading team were refining our trade requirements and operational plans. Due to the volume of trading required on the continental interconnectors and the timings of the capacity auctions, the trading was completed for the periods affected by the CMN at approximately 16:30 and the flows nominated by the interconnectors at the next available interconnector gate at 16:45. This meant they were picked up by the 17:00 CMN calculation.

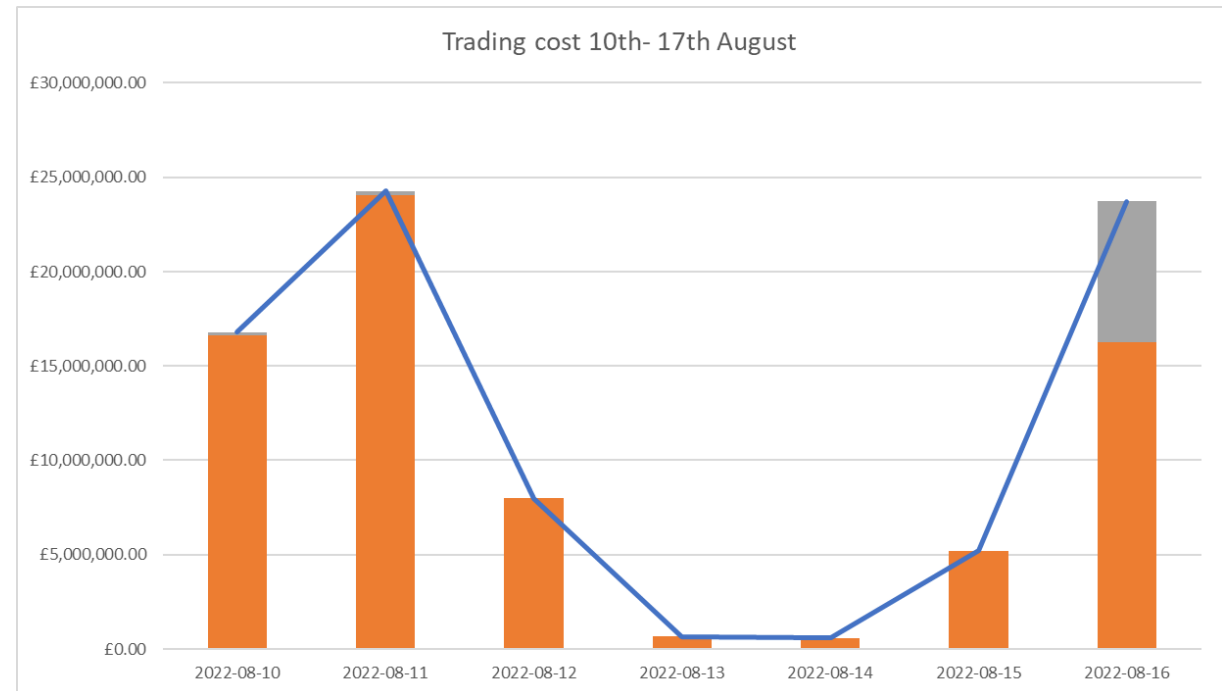
Trading actions

Trades from 10th-16th August have been predominately for **margin (orange)**, with some trades for **LE1 system constraint (grey)**.

The system conditions on the 11th were very low wind and there were exports on the interconnectors for large parts of the day.

On the 16th the wind was higher, but there continued to be a large requirement for margin and an additional requirement for LE1 on top of this. This was coupled with high prices on the continent to access this power.

These actions are only taken where they are lower cost than the alternative in the BM.



Locations of trading data

Upcoming trades – can be found here

https://data.nationalgrideso.com/trade-data/upcoming-trades/r/upcoming_trades

This contains trades that have been agreed but not started delivering

Historic trades – can be found here

<https://data.nationalgrideso.com/trade-data/historic-gtma-grid-trade-master-agreement-trades-data>

Contains all data for trades up to yesterday

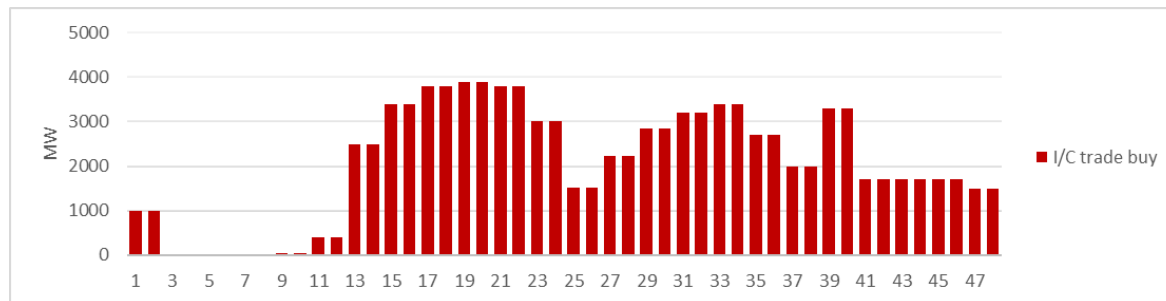
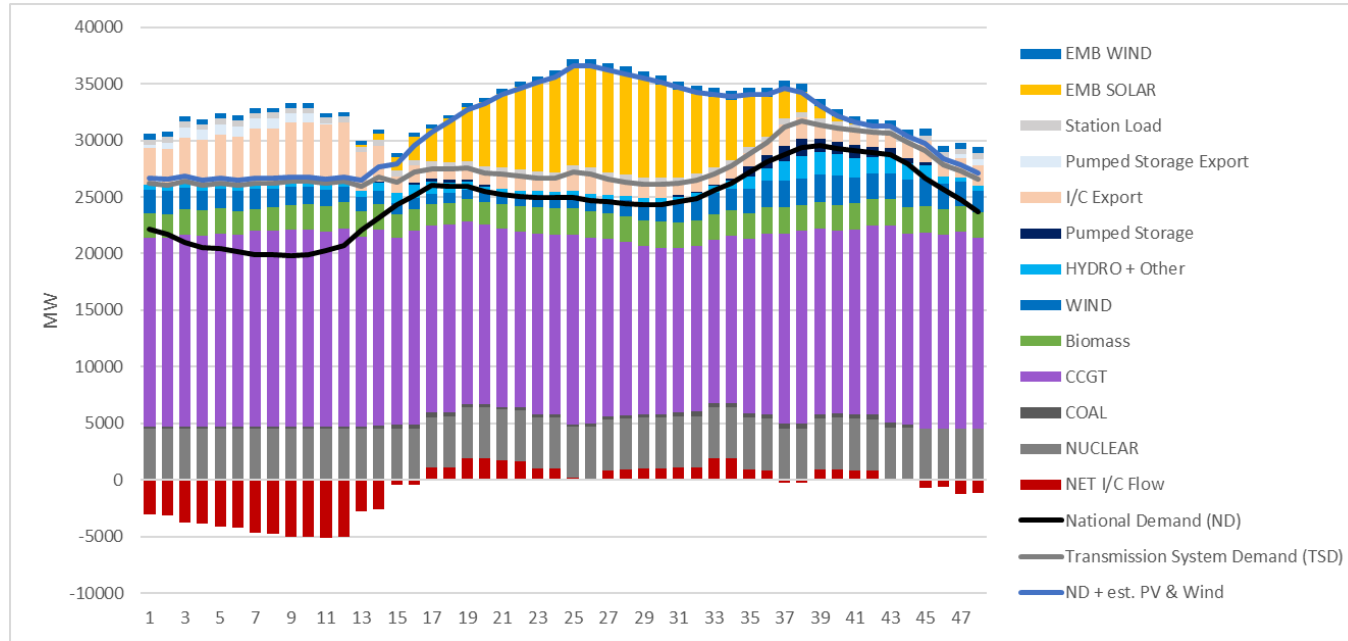
For enquiries about trading, trading data or becoming a registered interconnector trading partner email:

trading@nationalgrideso.com

DISBSAD data can be found here for all trades that have been delivered and who they are with

[DISBSAD | BMRS \(bmreports.com\)](#)

ESO Actions | Thursday 11 August – Daily Outturn ~£20m



- A very hot day with temperature up to 34°C with amber warning of extreme heat, with impact on generation and increasing demand
- Interconnector trading was carried out mainly for margin
- Market prices were high due to weather and expected tight system. The prices quoted for the interconnector trade volumes required for margin were very high.
- The ENCC Strategy team reworked the system operating plan in very short timescales to reduce the volume of interconnector trades required by committing to other generation options available in the BM (previously identified as contingency plant).
- The trading requirement was revised downwards and the trading team enacted the trades as per the advice.
 - 17:00-18:00, 3.1GW - updated 2.7GW
 - 18:00-19:00, 2.8GW - updated 1.8GW
 - 19:00-20:00, 4.8GW - updated 3.2GW
 - 20:00-21:00, 2.9GW - updated 1.5GW
- A rough estimate but this reworking saved ~ £9m

Order of Action

Sometimes operational circumstances and rapidly evolving scenarios will mean that we take options out of this order

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Everyday Actions	Order	Comments
All deliverable Offer action on all available BM participants	#1 based on Cost	Scheduled at Day Ahead, action taken in real time – some offers may not be available due to network congestion
Issue warming instructions to cold BM participants	#1 based on Cost	Scheduled at Day Ahead, action taken in real time
Buy energy from the continental Europe	#1 based on Cost	Scheduled at Day Ahead, action taken from Day Ahead to 4hrs ahead of time by ESO Traders
Reconfigure CCGTs to increase available energy (e.g. sync additional GTs)	#1 based on Cost	Scheduled at Day Ahead, managed within the control timescales within day
SO-SO trade in cost order	#1 based on Cost	SO to SO trade with other SO in Europe/Ireland
Reconfigure Transmission Network to reduce network congestion, including: Change substation running arrangements, Tap Quad Boosters, to control flow of energy and Making use of enhanced ratings	Normal operating practice – no cost	Changing daily operating conditions can result in different network configurations to reduce congestion

Enhanced Actions (if everyday actions are insufficient)	Order	Comments
Recall TO assets from outage to increase network availability and increase available capacity	#2	Anytime through to control room timescales, depending on ERTS (Emergency Return to Service) time
Issue an Electricity Margin Notice (EMN)	#3	Request to market to increase available energy or reduce demand. Likely to be issued at Day Ahead. Updated regularly
Taking additional actions obtained through EMN	#4	Managed in real time
A Capacity Market Notice (CMN) is automatically triggered to alert CM participants	#5	Driven by calculation of Market data at 4 hours ahead of real time

Emergency Actions	Order	Comments
Issue a High Risk of Demand Reduction (HRDR) system warning	#6	Warning network operators of high likelihood of demand control. Further request to market to increase available energy or reduce demand. Closer to real-time than ENM
Emergency Assistance (EA) request to other SO	#7	Real-time action. Only applicable if capacity is available on interconnectors
Emergency Instruction (EI) to other SO	#8	
Issue Demand Control Imminent (DCI) system warning	#9	If possible, this system warning will be issued 30 minutes prior to demand control. Warning to network operators
OC6 demand control instructions to DNOs	#10	This could be via voltage control or demand control (disconnecting customers)

Balancing service auction process failures

Sunday 14 August Dynamic containment auction for Monday 15 August:

- On Sunday 14 August the buy order for EFA1 day ahead for Dynamic Containment High was set at 0MW in error.
- The latest published forecast was 554MW and the on-the-day figure would have been 594 MW.
- The operational impact was minor, the outfeed losses were manageable with the already contracted FFR and MFR. System Demand outturned higher than forecast with wind less than forecast so actions were taken to increase MW to meet demand. This meant there was sufficient running plant above SEL to arm additional High frequency response in MFR as required.

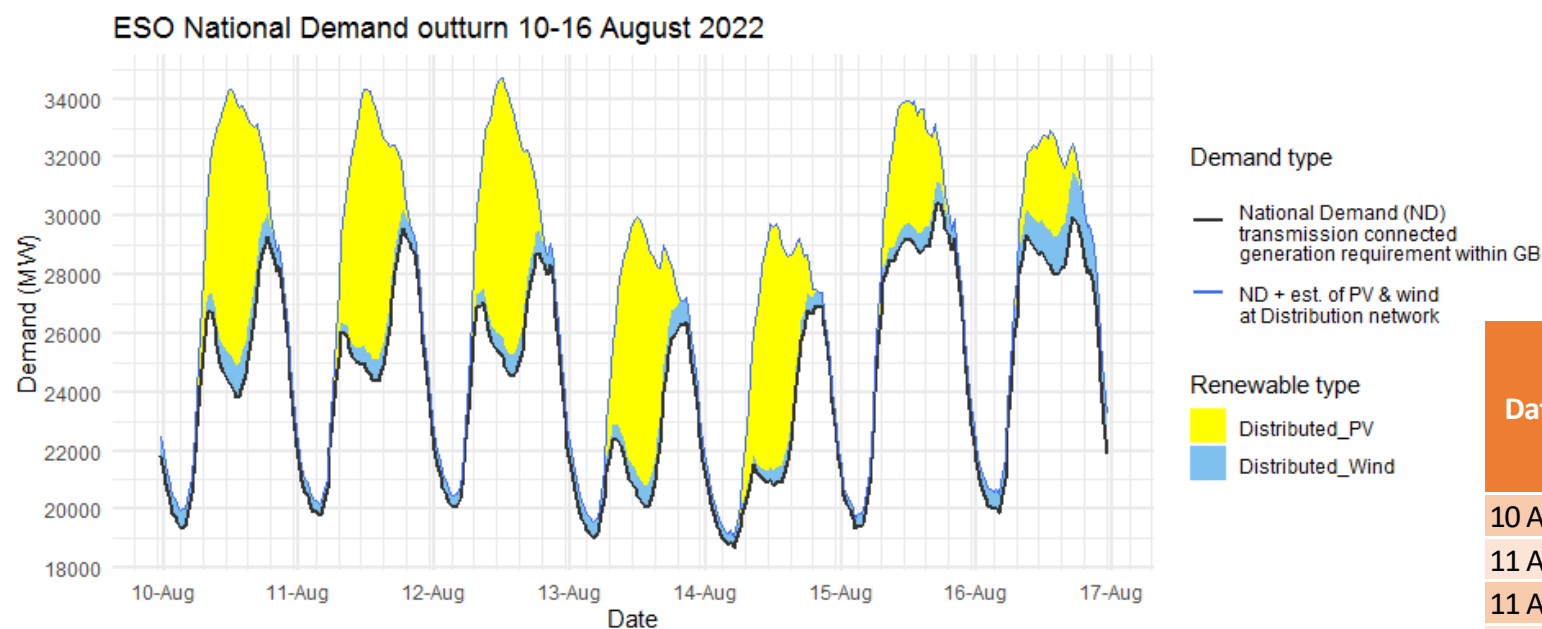
Additional process controls are being implemented to prevent this issue reoccurring.

Tuesday 16 August STOR auction for Wednesday 17 August:

- On Tuesday 16 August the day ahead STOR auction ran with an implied 0MW requirement. This was due to an error in the Buy Order submission process.
- Due to the nature of the error the process completed at 05:15 and all units were rejected.
- This was an isolated issue, and the auction ran as normal this morning.

Additional process controls have been implemented to ensure this issue does not reoccur.

Demand | Last week demand out-turn



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

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

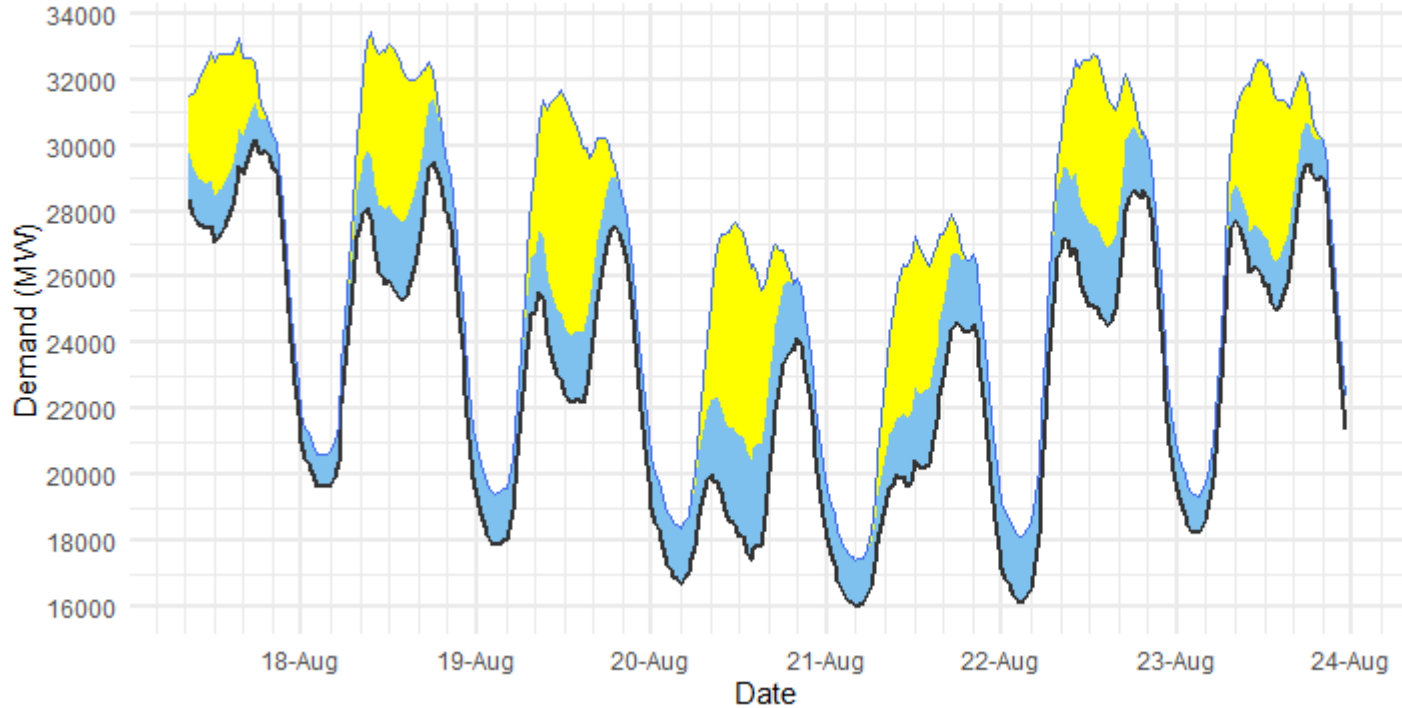
Blue line serves as a proxy for total GB customer demand. It includes demand supplied by the distributed wind and solar sources, but it **does not include** demand supplied by non-weather driven sources at the distributed network for which ESO has no real time data.

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

Date	Forecasting Point	FORECAST (Wed 10)			OUTTURN		
		National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
10 Aug	Afternoon Min	23.1	1.2	8.9	23.8	1.1	9.0
11 Aug	Overnight Min	19.7	0.4	0.0	19.8	0.4	0.0
11 Aug	Afternoon Min	25.4	0.8	7.8	24.4	0.7	8.6
12 Aug	Overnight Min	19.9	0.4	0.0	20.1	0.4	0.0
12 Aug	Afternoon Min	25.2	0.6	8.1	24.5	0.7	8.5
13 Aug	Overnight Min	19.3	0.5	0.0	19.0	0.6	0.0
13 Aug	Afternoon Min	20.7	0.6	7.3	20.1	0.8	8.4
14 Aug	Overnight Min	18.7	0.5	0.0	18.7	0.4	0.0
14 Aug	Afternoon Min	21.8	0.8	6.6	20.9	0.5	8.3
15 Aug	Overnight Min	19.8	0.6	0.0	19.3	0.3	0.0
15 Aug	Afternoon Min	27.8	0.9	4.3	28.7	0.6	4.3
16 Aug	Overnight Min	19.9	0.8	0.0	19.9	0.7	0.0
16 Aug	Afternoon Min	26.2	1.3	5.0	28.0	1.3	3.3

Demand | Week Ahead

ESO Demand forecast for 17-23 August 2022



Demand type

- National Demand (ND)
transmission connected
generation requirement within GB
- ND + est. of PV & wind
at Distribution network

Renewable type

- Distributed_PV
- Distributed_Wind

		FORECAST (Wed 17 Aug)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
17 Aug	Afternoon Min	27.3	1.4	4.1
18 Aug	Overnight Min	19.6	1.0	0.0
18 Aug	Afternoon Min	25.3	2.4	4.5
19 Aug	Overnight Min	17.9	1.6	0.0
19 Aug	Afternoon Min	22.2	2.1	6.7
20 Aug	Overnight Min	16.7	1.7	0.0
20 Aug	Afternoon Min	17.4	3.1	5.8
21 Aug	Overnight Min	16.0	1.4	0.0
21 Aug	Afternoon Min	20.2	2.3	4.3
22 Aug	Overnight Min	16.1	2.0	0.0
22 Aug	Afternoon Min	24.5	2.4	4.6
23 Aug	Overnight Min	18.3	1.1	0.0
23 Aug	Afternoon Min	25.0	1.5	5.0

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

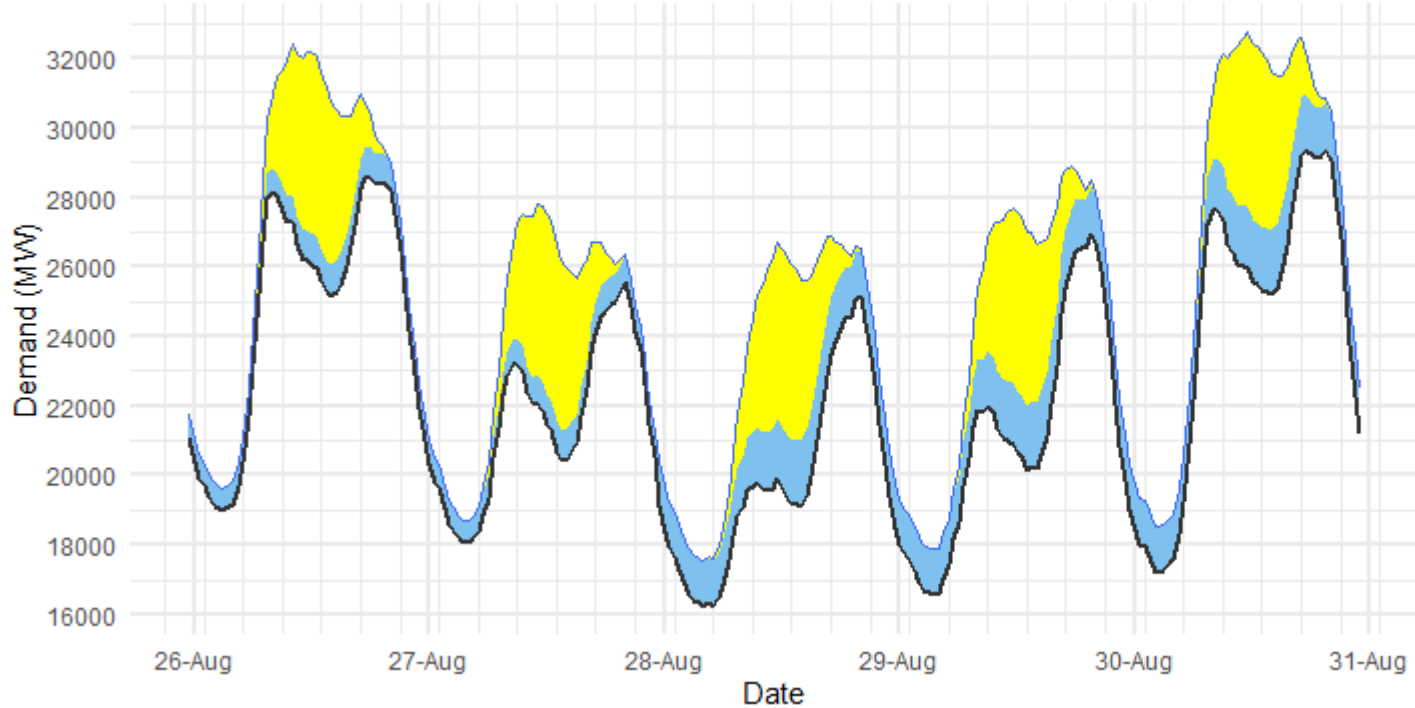
ND values **do not include** export on interconnectors or pumping or station load

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

Demand | August Bank Holiday early view

ESO Demand forecast for 26-30 August 2022



Demand type

- National Demand (ND) transmission connected generation requirement within GB
- ND + est. of PV & wind at Distribution network

Renewable type

- Distributed_PV
- Distributed_Wind

		FORECAST (Wed 17 Aug)		
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)	Dist. PV (GW)
26 Aug	Overnight Min	19.0	0.7	0.0
26 Aug	Afternoon Min	25.1	0.9	4.7
27 Aug	Overnight Min	18.0	0.7	0.0
27 Aug	Afternoon Min	20.4	0.9	4.9
28 Aug	Overnight Min	16.2	1.3	0.0
28 Aug	Afternoon Min	19.1	1.9	4.6
29 Aug	Overnight Min	16.6	1.3	0.0
29 Aug	Afternoon Min	20.1	1.8	5.0
30 Aug	Overnight Min	17.2	1.3	0.0
30 Aug	Afternoon Min	25.2	1.9	4.6

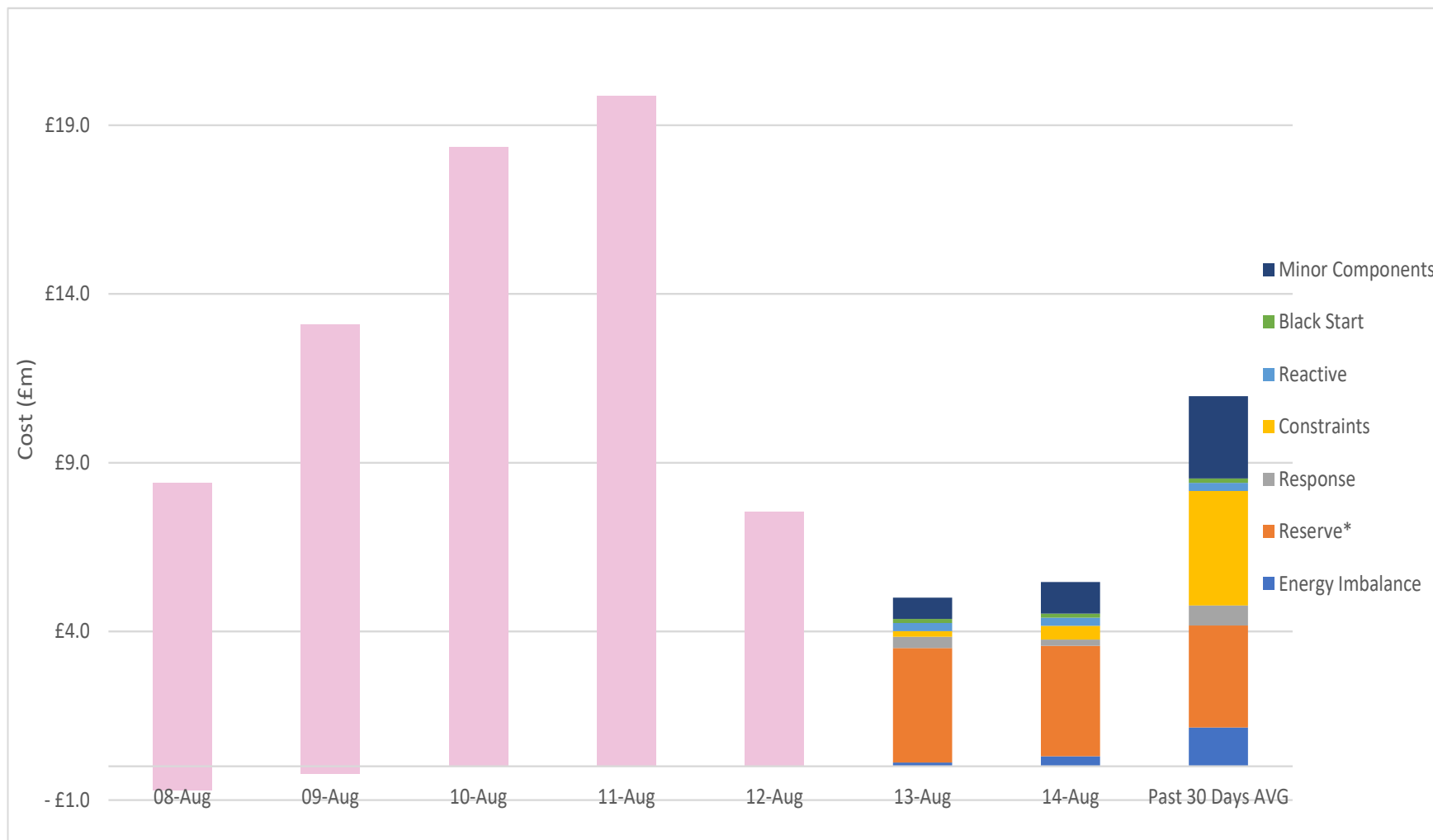
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ESO Actions | Category costs breakdown for the last week



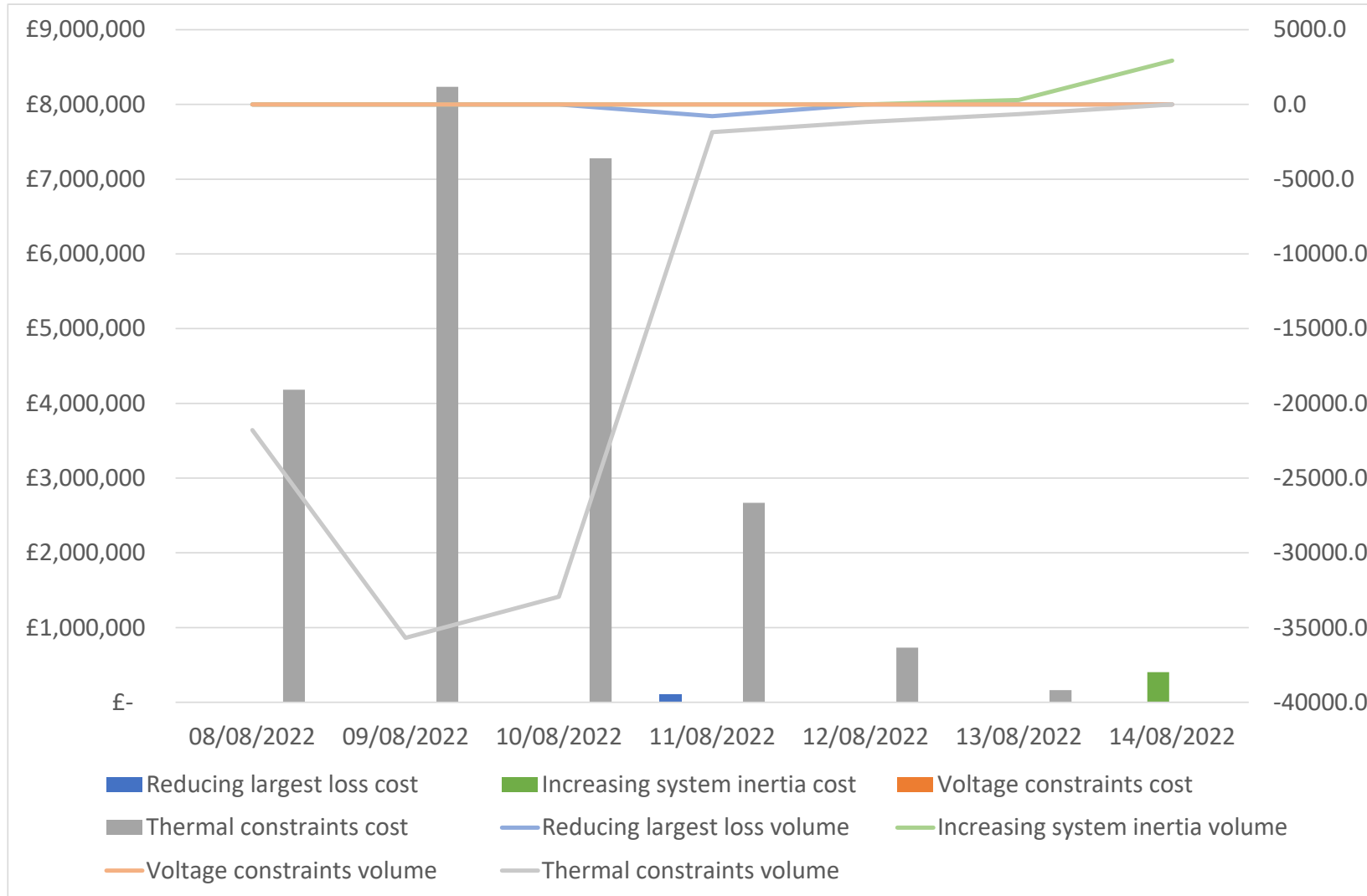
Date	Total (£m)
08/08/2022	7.7
09/08/2022	12.9
10/08/2022	18.3
11/08/2022	19.9
12/08/2022	7.5
13/08/2022	5.0
14/08/2022	5.5
Weekly Total	76.8

Reserve was the key cost component on Saturday and Sunday.

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

Past 30 Days Average is displayed in the chart

ESO Actions | Constraint Cost Breakdown



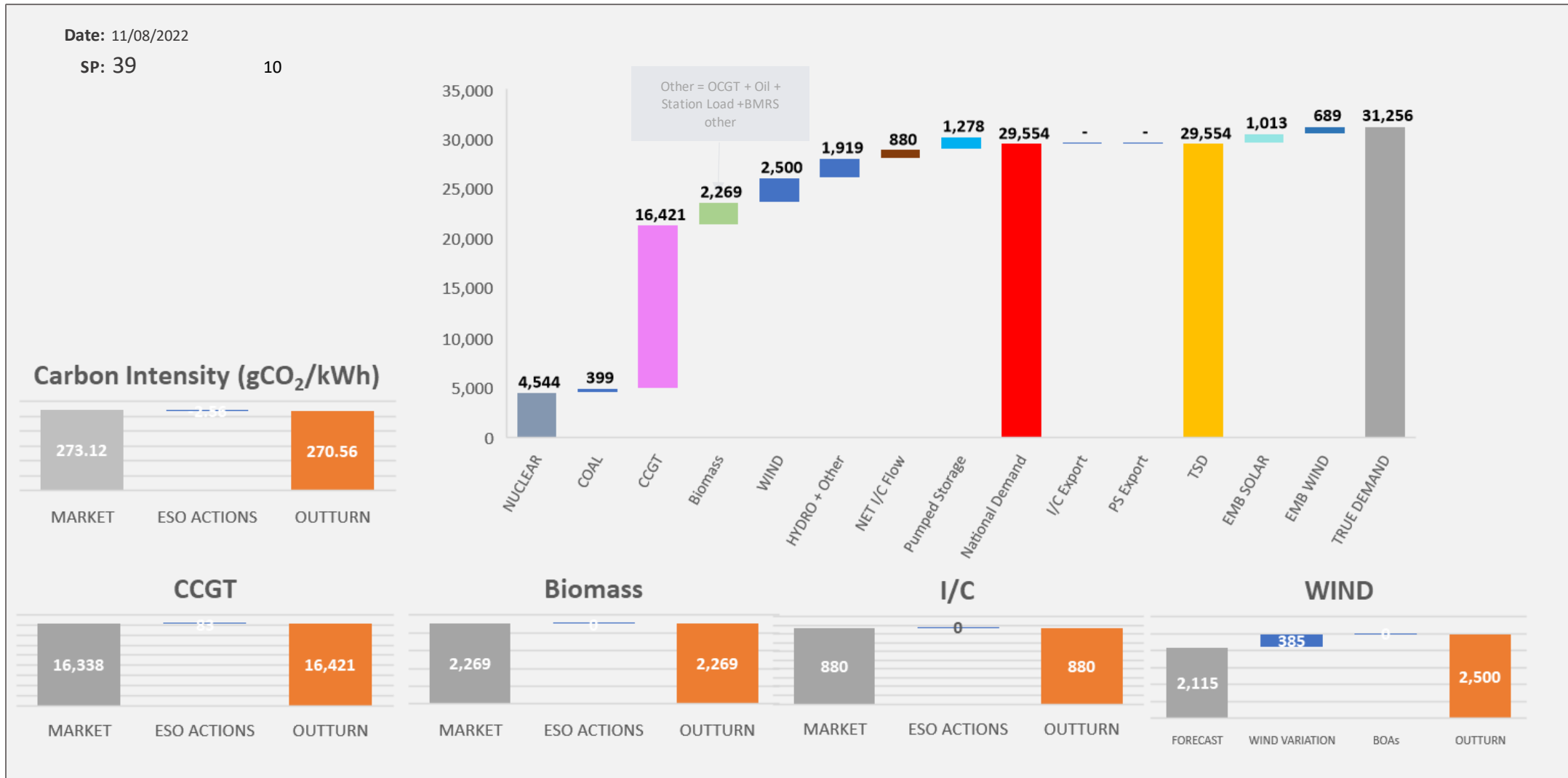
Thermal – network congestion
 Actions required to manage Thermal Constraints throughout the week except Sunday.

Voltage
 No Intervention to manage the voltage levels.

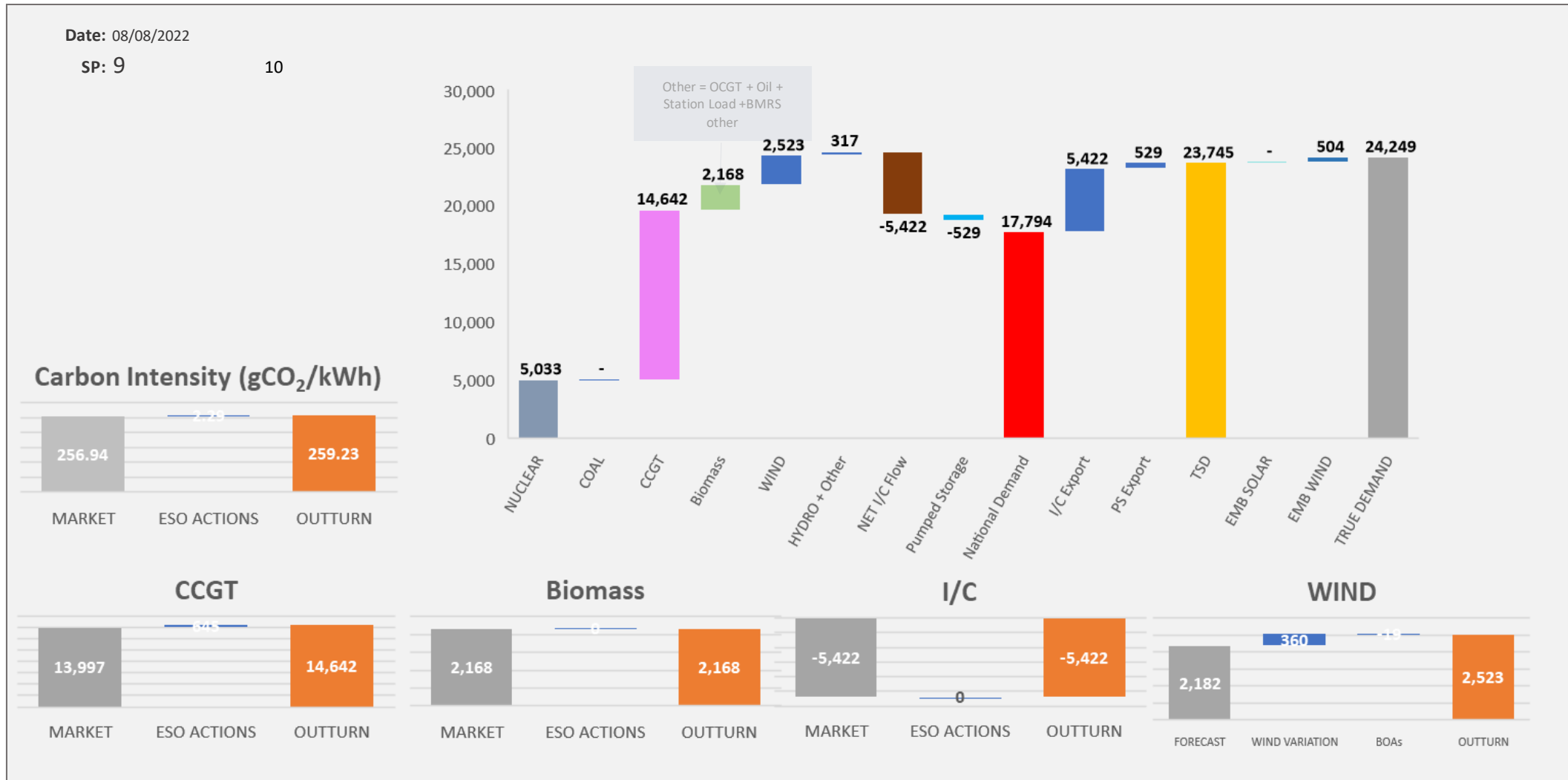
Managing largest loss for RoCoF
 Intervention required to manage largest loss on Thursday

Increasing inertia
 Intervention required to manage Inertia on Sunday

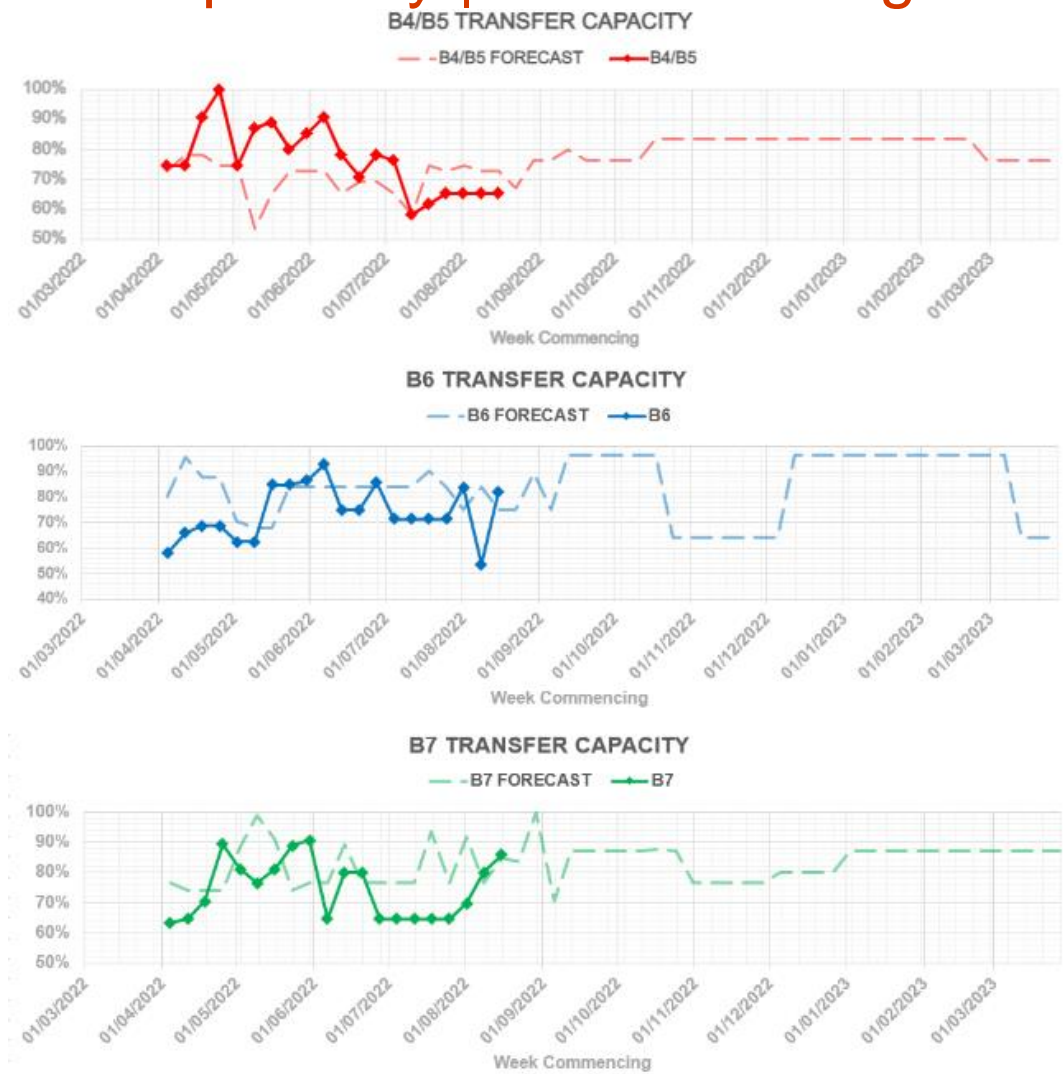
ESO Actions | Thursday 11 August – Peak Demand – SP spend ~£1m



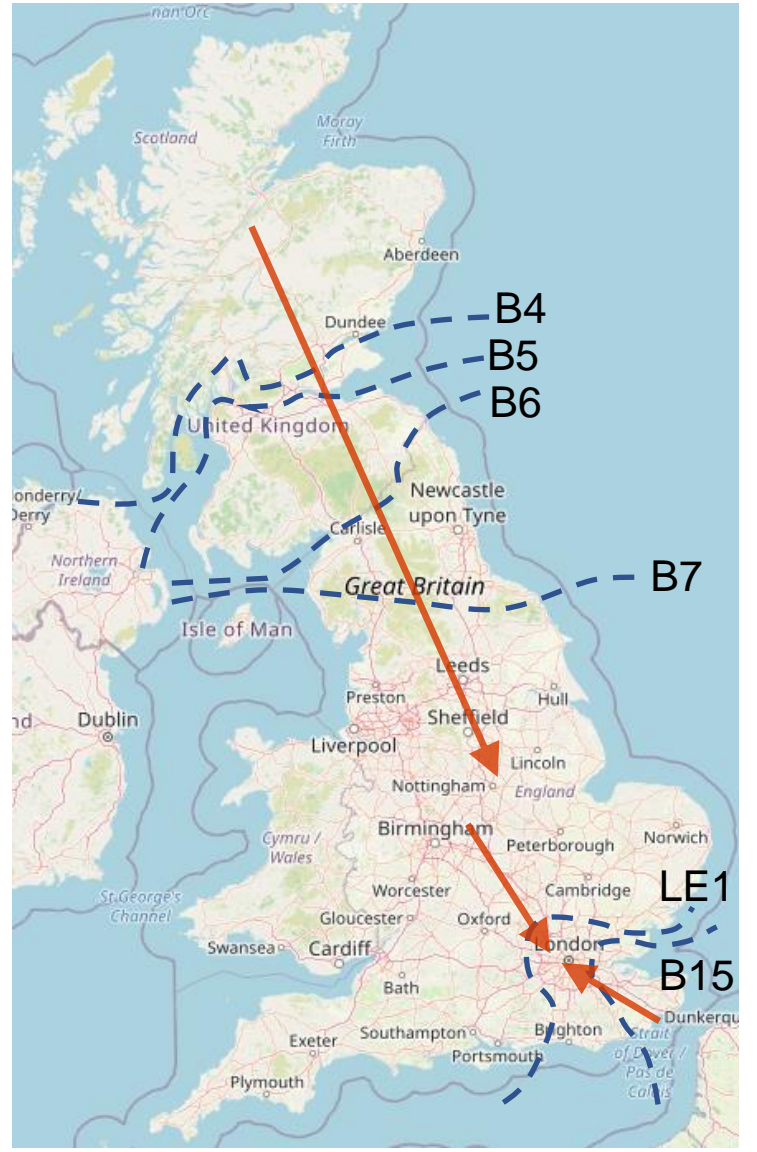
ESO Actions | Monday 08 August – Minimum Demand – SP Spend £100k



Transparency | Network Congestion

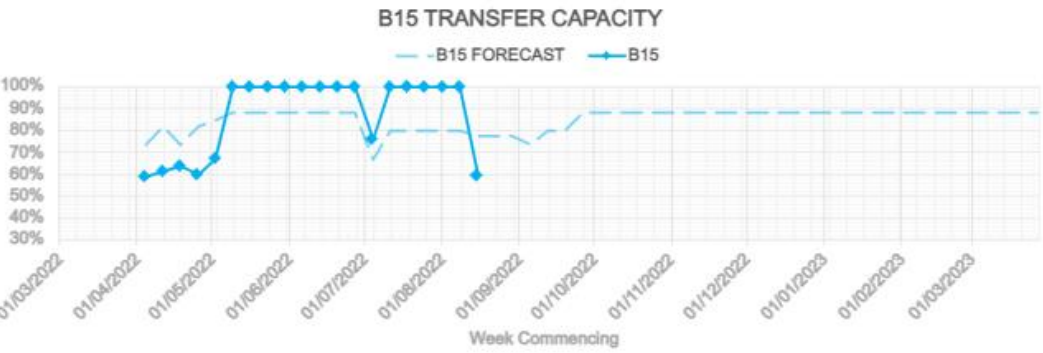


Boundary	Max. Capacity (MW)
B4/B5	2750
B6	5600
B7	8400
LE1	7000
B15	7500

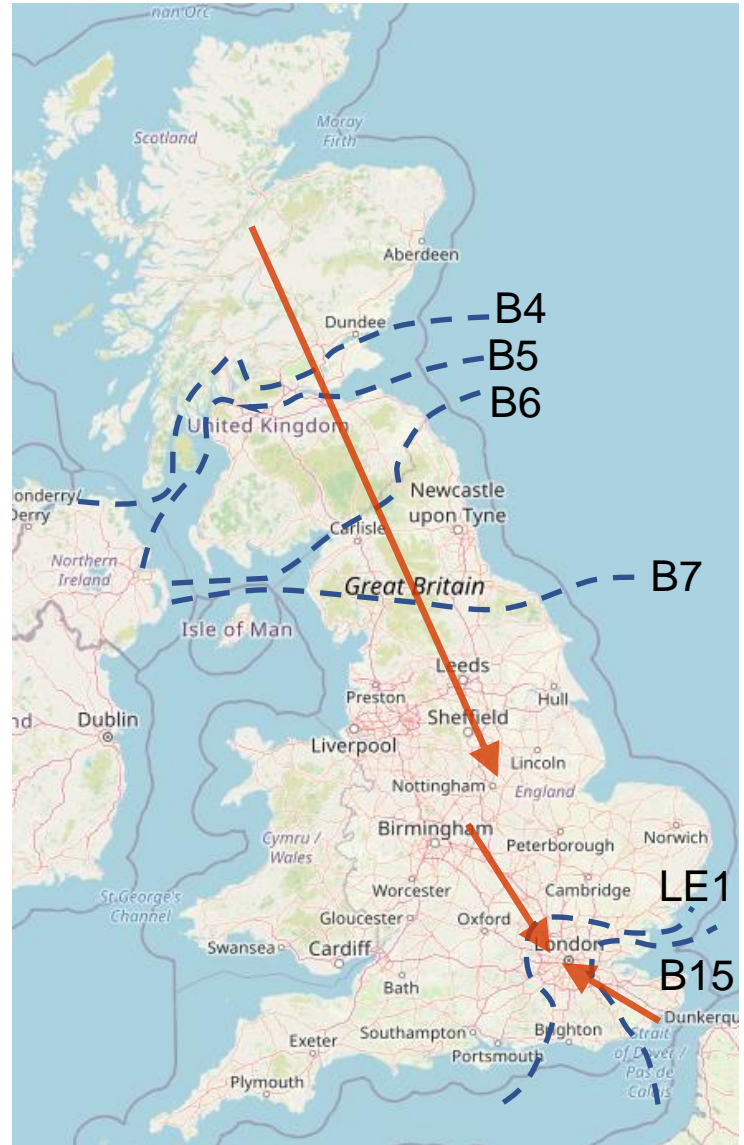


Day ahead flows and limits, and the 24 month constraint limit forecast are published on the ESO Data Portal: <https://data.nationalgrideso.com/data-groups/constraint-management>

Transparency | Network Congestion



Boundary	Max. Capacity (MW)
B4/B5	2750
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Day ahead flows and limits, and the 24 month constraint limit forecast are published on the ESO Data Portal: <https://data.nationalgrideso.com/data-groups/constraint-management>

Q: Regarding TSO-TSO trade with SEMO - I am interested with trades with Ireland (I have not seen trades with Ireland appear in disbsad)

A: National Grid ESO does not enter into a trade with the Irish SO under the counterparty mechanism: The Irish SO arranges for the interconnector to be moved then trades-out the resultant imbalance via a third-party. So, trades exist between the Irish SO and the third party and the third party trades the power into the GB market. But the GB ESO is not involved, hence no Balancing Services Adjustment Data (BSAD) entries.

Q: What work is being done to reduce the impact constraints payments are having on the bills of the end consumer?

Our plan to manage constraints on the system includes:

- Clearer forecasts in BSUoS costs
- Developing intertripping capability through our constraint management pathfinder
- Working with regional networks on a whole system approach
- Continuing to improve our existing network through our NOA assessments

In the short term, we are talking to the Transmission Owners about planned reinforcement works and whether they can be moved forward to be completed sooner. We are investigating contracts with providers to help manage import constraints in the south east.

The reduction in LE1 in September, shown on the slide, is due to an outage to reconductor a circuit, which will increase its rating and help increase LE1 constraint capacity.

We have arranged enhanced ratings with the Transmission Owners on circuits to increase the power flow across constraint boundaries.

Questions outstanding from previous weeks

Q: Please explain the C16 process in more detail

A: We included a slide on the recently launched C16 consultation during last week's OTF (10th August). This question was asked during the 10th August OTF.

[C16 statements and consultations | National Grid ESO](#)

NGESO is required to establish statements and guidelines in accordance with special condition C16 of the statements of the transmission licence. NGESO conducts an annual review of all license statements.

A formal consultation forms part of this annual review to review the C16 Statements. Any changes proposed undergo a consultation process and a report to the authority is sent outlining these, with changes effective by April 1st of that year, unless vetoed or directed otherwise by Ofgem. If Ofgem do veto, then there are 2 different directions for the statements to go live. Ofgem can either direct a change or they can request NGESO to run a further consultation on the specific issues they have identified, which may push back the go live date or a statement might go live pending further changes.

Additional C16 reviews can be issued in addition to the annual review if statement changes are required before the April 1st effective date. An additional C16 consultation review was issued on 8/8/2022 which is open for industry responses until 5pm on 5/9/22.

Please see the [C16 website](#) for more information.

Questions outstanding from previous weeks

Q: Can you explain why DR requirement for a given day is either 0 MW or 100 MW *for all EFA blocks*? Some EFA blocks have low DC requirement, meaning that the ESO could procure DR instead

A: In the past few weeks, we have set the DM and DR requirements to 0MW for the day on several occasions.

The reasons for this are as follows:

Dynamic Containment is a vital service to ensure system security. There are times when the only way we can ensure that we can contain large losses within our required limits is through procuring DC. During summer, demands have reduced, PV generation has increased, and system inertia has also reduced. As expected, this has driven increases to the DC requirements. We are now experiencing more periods when the DC requirement exceeds the expected market capacity for that EFA block.

Currently the DM and DR services are only being provided by units that are also DC capable units. The DM and DR services are still in the testing and learning stage and as such they are not offsetting the procurement of any other response services.

When we are forecasting a requirement for DC that is larger than the expected market capacity we are setting the DM and DR requirement to 0, to ensure that we have maximum capacity participating in the DC service where they are most valuable from a system security point of view.

We decided to reduce requirements for the whole day rather than just per EFA block to keep the market signals simple. We are planning to review this in the future and will look at the data flows required and impacts of moving to a per EFA requirement reduction .

Questions outstanding from previous weeks

Q: It looks like NGENSO have been using greater ASDP volumes (ancil services dispatch platform) but the dispatch of this is in a fairly obscure place. Can this be brought to BMRS / made more explicit?

A: ASDP is for Non-BM instructions, these instructions are published on the data portal. We can look at what steps would be needed to make this more accessible and look to include as part of our transparency roadmap.

Q: If demand disconnections are required this winter will interconnector exports be disconnected/curtailed before GB demand?

A: Our indicative order of action included in this slide pack indicates that we would seek to curtail interconnector exports through Schedule 7a trades or Emergency Instruction prior to carrying out demand disconnection.

Q: If gas supply to CCGT is curtailed due to gas supply issues and there is a Capacity Market Notice in place what happens? Are CCGT expected to deliver CM obligation or observe the instruction to cease gas flows?

A: Capacity Market Agreement holders are obliged to deliver their “Adjusted Load Following Capacity Obligation” (ALFCO) during a System Stress Event. The main circumstances where CM obligation may change is where a Capacity Market agreement holder has provided Relevant Balancing Services during the System Stress Event and so their obligations are adjusted accordingly in the ALFCO calculation. Where a Capacity Market Notice is not issued at least four hours before a System Stress event, Capacity Providers will not be penalised for failing to meet their obligations. Other circumstances in which Capacity Providers would not need to meet their CM Obligation are listed in CM Rule 8.5.1, including a direction issued by the Secretary of State pursuant to section 34 of Electricity Act 1989.

Questions outstanding we are still working on

Q: Please, the market needs to understand more fully how interconnectors are to be used in periods of very high prices and potential generation shortfall. We already see the SEM interconnectors regularly restricted by SONI/EirGrid, Norway is talking of limiting exports to GB. How will NGESO operate the GB interconnectors: What trading prices are unacceptable (related to the cost of BM actions vs VoLL piece)? When will NGESO restrict interconnector NTC - presumably if a shortfall is anticipated (as SEM)? When are emergency assistance actions taken?

Q: Based on where Winter 22 products are trading, where does this position yourself with respect to securing power over the winter?

Q: The ESO has shown how bad the winter could be for anyone who can do the maths to take away 5.7GW. I don't think you believe what you've written, and nobody else does. You're generally good with transparency - is any of your publishing subject to any form of government pressure?

A. We have published an early view of winter outlook to help the industry prepare for this winter. This is an ESO publication. The early view states that we recognise there are risks and uncertainties this winter (for example, we highlighted the availability of French nuclear units and gas supplies in Europe). We have set out some of the actions we are taking to build our resilience to these risks and uncertainties. In early autumn we will publish a full winter outlook based on verifiable market data as well as extensive engagement with stakeholders, including system operators in other countries, to ensure our analysis is as robust as possible.

Questions outstanding we are still working on

Q: The Irish ICs over July (Moyle basically all July, East-West 10th July) generated to a nomination profile completely away from their PNs. This is a semi-regular occurrence since ISEM. After several years why are PNs still not submitted correctly for Irish ICs?

Q: Is constraint cost going to increase year on year? Looking at few months trends in Summer, Winter? Any views? When constraint management plans from ESO will kick-in to reduce the constraint?

Question which needs a clarification:

Q: If in a dynamic service like DC, would an import, such as ABSVD, or other actions used to contain frequency, be included in a charge?

slido



Audience Q&A Session

① Start presenting to display the audience questions on this slide.

Feedback

Please remember to use the feedback poll in sli.do after the event.

We welcome feedback to understand what we are doing well and how we can improve the event for the future.

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

