



ESO Operational Transparency Forum

4 January 2023

Introduction

There is no OTF event taking place today 4 January 2023

Invitations for 2023 events will be sent out today

These slides, previous event recordings and further information about the webinars can be found at the following location:

Advanced question can be asked here: <https://forms.office.com/r/k0AEfKnai3>

Stay up to date on our new webpage: <https://www.nationalgrideso.com/OTF>

Future deep dive/ response topics

Today:

No specific topics

Coming soon:

Reserve Reform update - January

Response markets deep dive – to be rescheduled due to winter workloads in the team

Feedback welcomed on our proposed deep dive topics

Winter Contingency Units

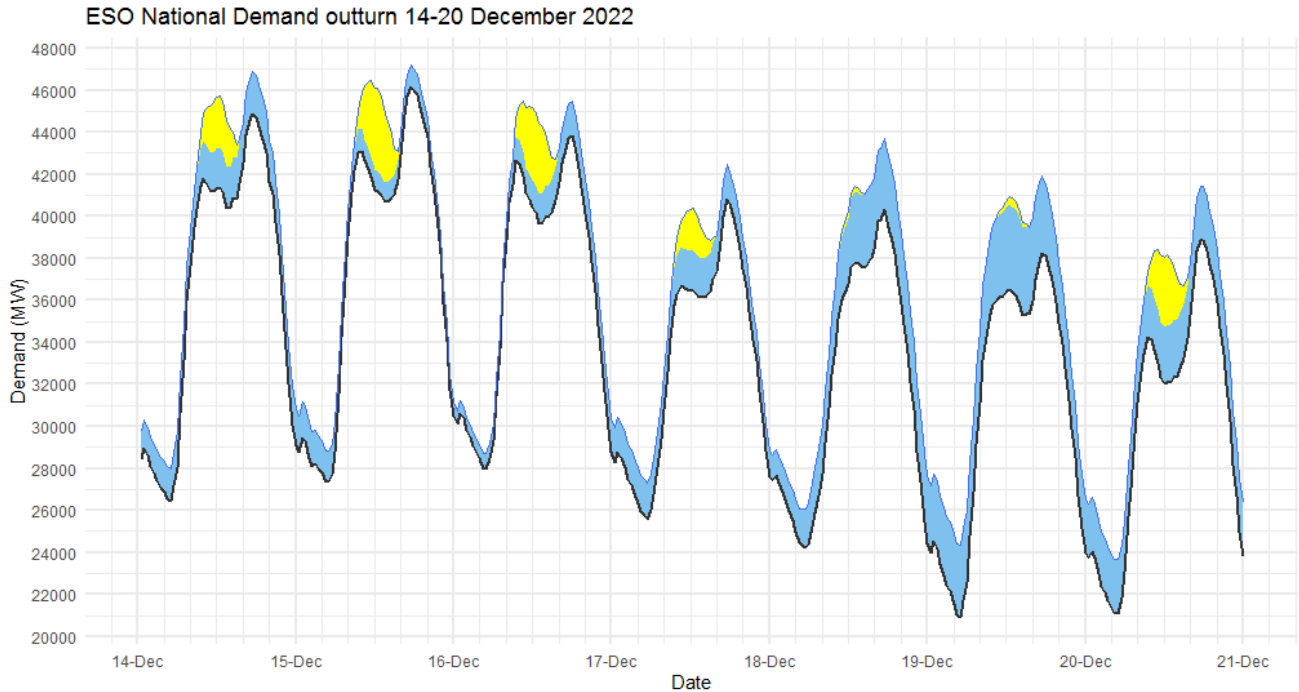
There are currently no plans for further proving or test runs of these units.

All Offer Acceptances issued by NGENSO for the operation of units under these contracts will be priced at £0/MWhr. To ensure the impact on Cashout is mitigated the £0 MWhr Offer Acceptance will be removed from settlement using the BSCP18 process and replaced through BSAD with a price of £99,999/MWhr. This ensures that both Imbalance Prices and Imbalance Charges are calculated correctly; and the Generator will not receive an additional payment relating to the BOA. The Offer volume will instead be Settled as Balancing Services Adjustment Data (BSAD) and Applicable Balancing Services Volume Data (ABSVD), in accordance with Approved Modification P447.

Further information can be found at: [Winter Contingency Contracts](#)

ESO will continue to provide formal notice through the BMRS ahead of running the winter contingency units for test or proving runs or to support margin.

Demand | Demand out-turn 14-20 Dec 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

Date	Forecasting Point	FORECAST (Wed 14 Dec)		OUTTURN			
		National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Triad Avoidance est. (GW)	N. Demand adjusted for TA (GW)	Dist. wind (GW)
14 Dec 2022	Evening Peak	45.0	2.0	44.9	0.0	44.9	2.0
15 Dec 2022	Overnight Min	25.8	1.8	27.4	n/a	n/a	1.5
15 Dec 2022	Evening Peak	45.9	1.1	46.1	0.0	46.1	1.0
16 Dec 2022	Overnight Min	27.2	0.6	27.9	n/a	n/a	0.7
16 Dec 2022	Evening Peak	43.5	1.6	43.8	0.0	43.8	1.7
17 Dec 2022	Overnight Min	23.7	2.2	25.6	n/a	n/a	1.7
17 Dec 2022	Evening Peak	37.8	2.7	40.8	0.0	40.8	1.6
18 Dec 2022	Overnight Min	20.0	3.8	24.2	n/a	n/a	1.8
18 Dec 2022	Evening Peak	36.2	3.6	40.4	0.0	40.4	3.4
19 Dec 2022	Overnight Min	19.0	3.4	20.9	n/a	n/a	3.4
19 Dec 2022	Evening Peak	40.1	2.6	38.2	0.0	38.2	3.7
20 Dec 2022	Overnight Min	20.9	2.3	21.1	n/a	n/a	2.6
20 Dec 2022	Evening Peak	41.4	2.0	38.9	0.0	38.9	2.5

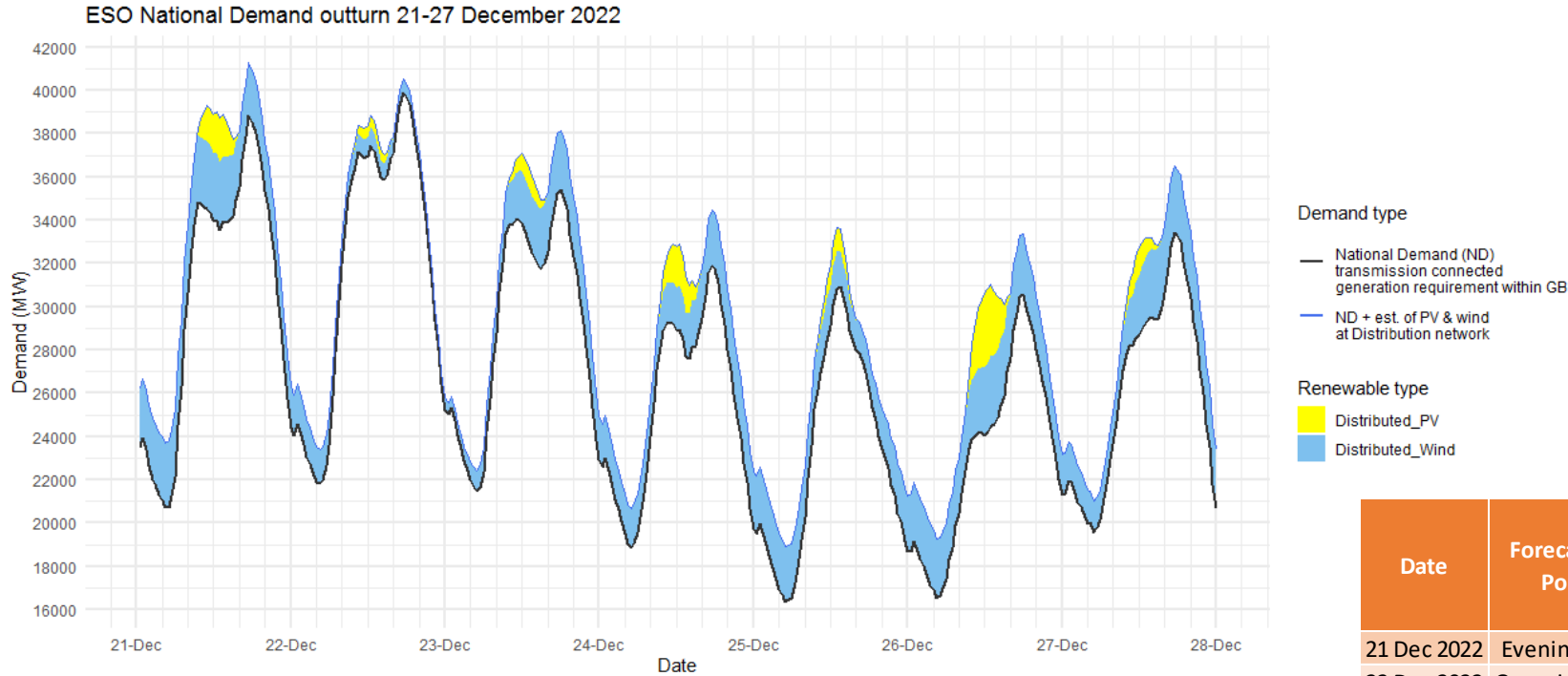
The black line (National Demand ND) is the measure of portion of total GB customer demand that is supplied by the transmission network.

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](#)

Demand | Demand out-turn 21-27 Dec 2022



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

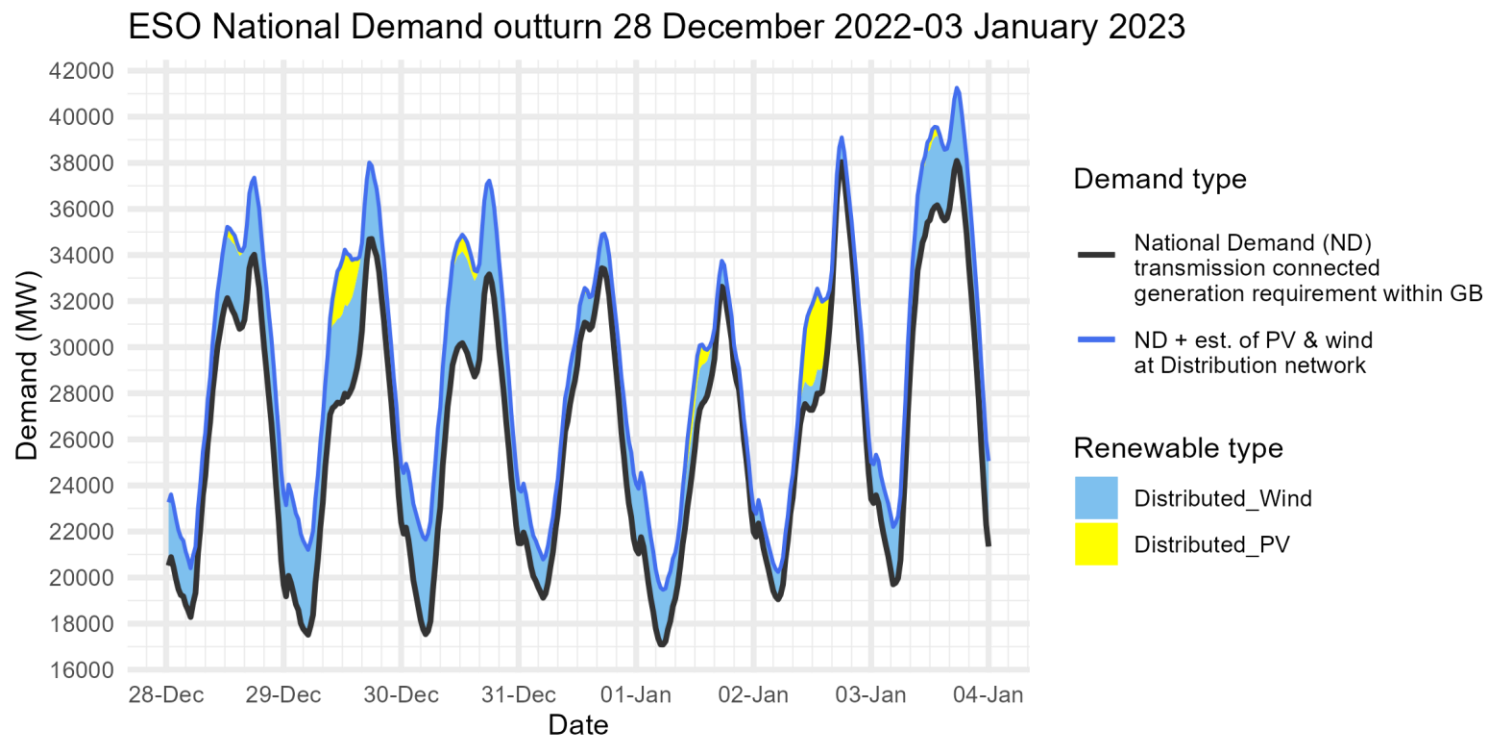
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Date	Forecasting Point	FORECAST (Wed 21 Dec)		OUTTURN			
		National Demand (GW)	Dist. wind (GW)	National Demand (GW)	Triad Avoidance est. (GW)	N. Demand adjusted for TA (GW)	Dist. wind (GW)
21 Dec 2022	Evening Peak	38.0	2.6	38.8	0.0	38.8	2.4
22 Dec 2022	Overnight Min	22.3	1.8	21.8	n/a	n/a	1.6
22 Dec 2022	Evening Peak	38.4	1.1	39.9	0.0	39.9	0.7
23 Dec 2022	Overnight Min	20.9	1.3	21.5	n/a	n/a	1.0
23 Dec 2022	Evening Peak	35.8	2.5	35.4	0.0	35.4	2.8
24 Dec 2022	Overnight Min	17.6	2.4	18.9	n/a	n/a	1.8
24 Dec 2022	Evening Peak	32.4	2.4	31.9	0.0	31.9	2.5
25 Dec 2022	Overnight Min	17.7	1.7	16.4	n/a	n/a	2.5
25 Dec 2022	Evening Peak	29.7	1.4	27.5	0.0	27.5	1.4
26 Dec 2022	Overnight Min	19.5	1.7	16.5	n/a	n/a	2.7
26 Dec 2022	Evening Peak	34.4	1.4	30.6	0.0	30.6	2.8
27 Dec 2022	Overnight Min	20.8	1.7	19.6	n/a	n/a	1.4
27 Dec 2022	Evening Peak	36.7	2.6	33.4	0.0	33.4	3.1

Demand | Demand out-turn 28 Dec - 3 Jan 2023



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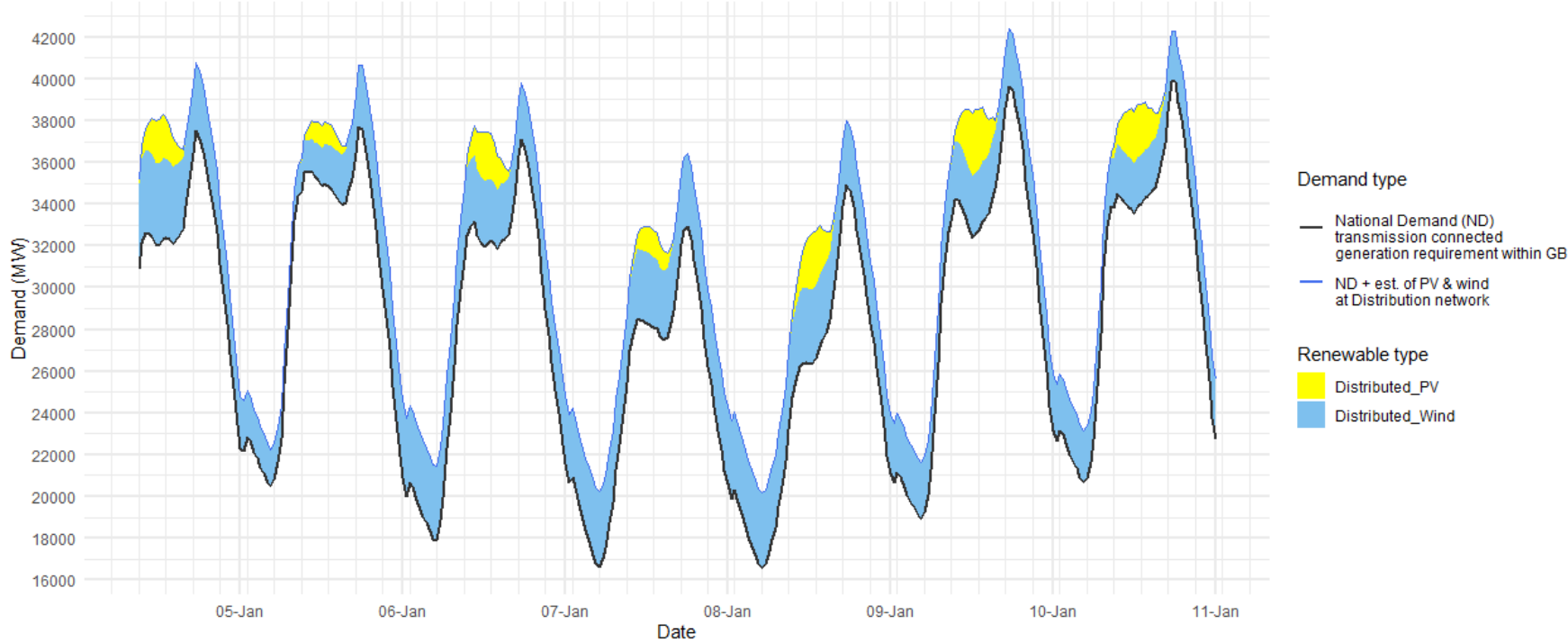
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Demand | Week Ahead

ESO Demand forecast for 04-10 January 2023



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

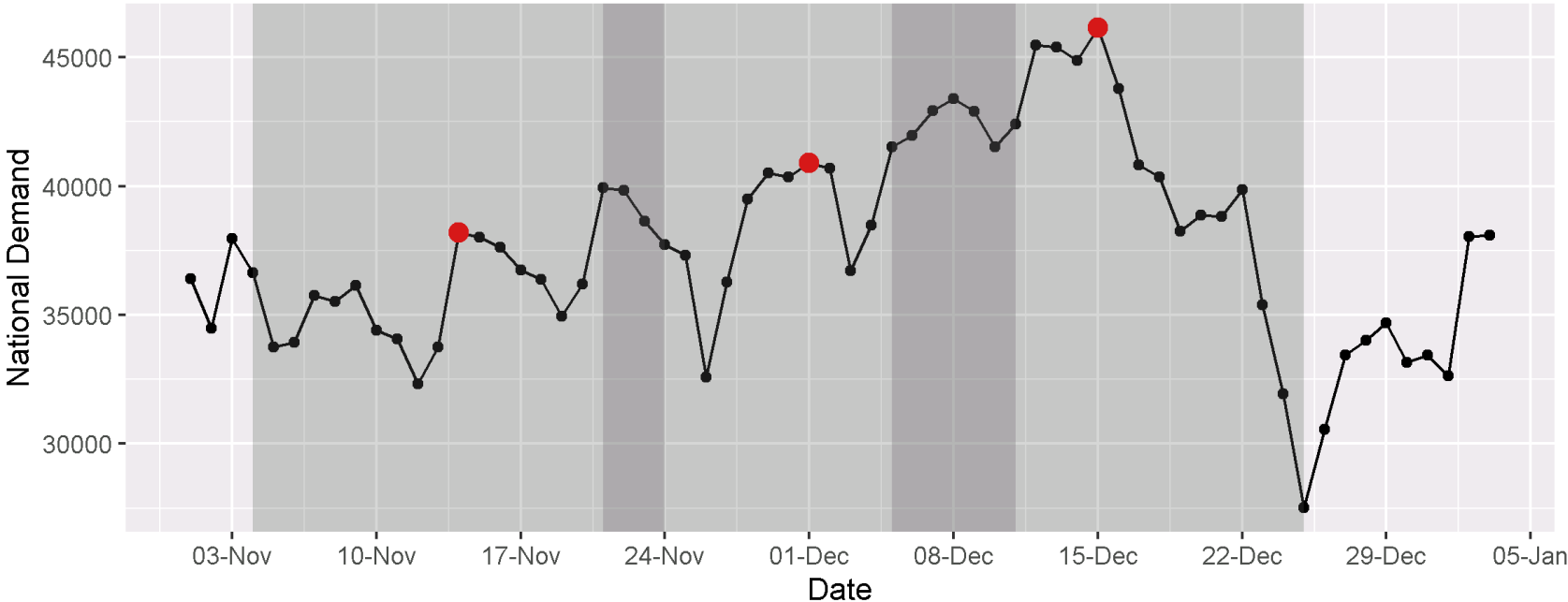
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Historic out-turn data can be found on the [ESO Data Portal](#) in the following data sets: [Historic Demand Data](#) & [Demand Data Update](#)

		FORECAST (Wed 04 Jan)	
Date	Forecasting Point	National Demand (GW)	Dist. wind (GW)
04 Jan 2023	Evening Peak	37.5	3.3
05 Jan 2023	Overnight Min	20.5	1.8
05 Jan 2023	Evening Peak	37.7	2.9
06 Jan 2023	Overnight Min	17.9	3.6
06 Jan 2023	Evening Peak	37.1	2.7
07 Jan 2023	Overnight Min	16.6	3.6
07 Jan 2023	Evening Peak	32.9	3.5
08 Jan 2023	Overnight Min	16.6	3.6
08 Jan 2023	Evening Peak	34.9	3.1
09 Jan 2023	Overnight Min	18.9	2.7
09 Jan 2023	Evening Peak	39.6	2.7
10 Jan 2023	Overnight Min	20.7	2.5
10 Jan 2023	Evening Peak	39.9	2.4

Triad avoidance: indicative triad data based on operational metering



ESO operational metering			
Date	Time of peak (HH ending)	National Demand (MW)	Estimated triad avoidance (HH corresponding with the time of the peak) (MW)
15/12/2022	1730	46147	0
01/12/2022	1800	40909	200
14/11/2022	1800	38193	0

ESO does not include station load.

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

Operational margins: week ahead

How to interpret this information

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

The table provides our current view on the operational surplus based on expected levels of generation, wind and peak demand. This is based on information available to National Grid ESO as of 21 December and is subject to change. It represents a view of what the market is currently intending to provide before we take any actions. The interconnector flows are equal to those in the Base case presented in the Winter Outlook.

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

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

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

Margins are adequate for the next week. This is based on our current assessment and is subject to change.

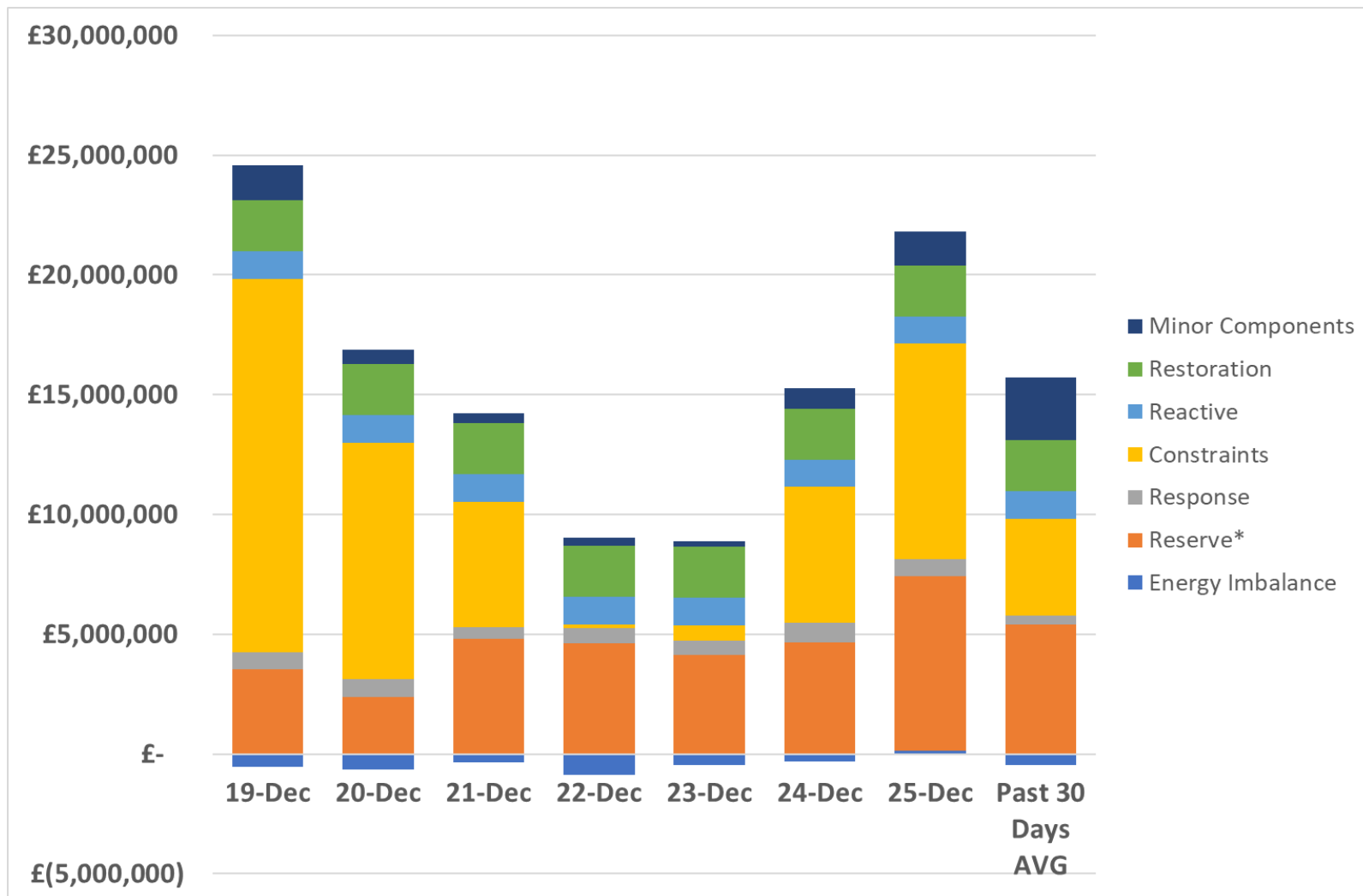
Day	Date	Notified Generation (MW)	Wind (MW)	IC Flows* (MW)	Peak demand (MW)	Indicative surplus (MW)
Thu	05/01/2023	40245	15620	4020	38700	16410
Fri	06/01/2023	41111	13920	4020	37880	16320
Sat	07/01/2023	41821	17620	4020	33600	23480
Sun	08/01/2023	42696	15930	4020	35940	21720
Mon	09/01/2023	43996	14170	4020	40210	16980
Tue	10/01/2023	43981	12110	4020	40580	14520
Wed	11/01/2023	43966	15170	4400	40430	18120

*Interconnector flow in line with the Winter Outlook Report Base Case but will ultimately flow to market price

Margins do not include NGENSO enhanced or emergency actions (Outlined here: [download \(nationalgrideso.com\)](https://www.nationalgrideso.com))

Adequate when Indicative Surplus \geq 1000 MW

ESO Actions | Category costs breakdown for w/c 19 December



Date	Total (£m)
19/12/2022	24.0
20/12/2022	16.2
21/12/2022	13.9
22/12/2022	8.2
23/12/2022	8.4
24/12/2022	15.0
25/12/2022	21.8
Weekly Total	107.4
Previous Week	122.3

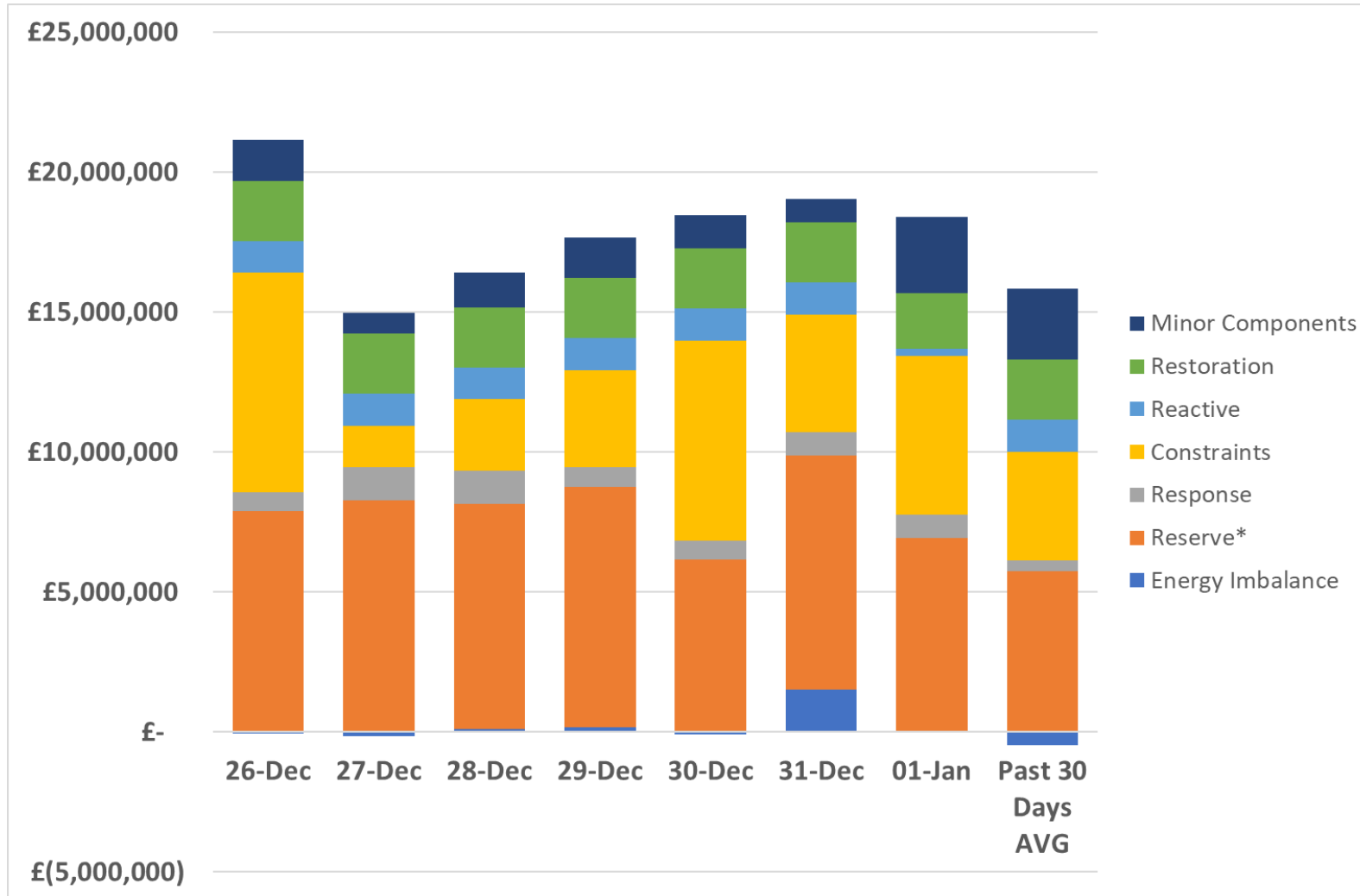
Reserve and Constraints costs were the key cost component throughout the week.

Please note that all the categories are presented and explained in the **MBSS**.

Data issue: Please note that due to a data issue on a few days over the last few months, the Minor Components line in Non-Constraint Costs is capturing some costs on those days which should be attributed to different categories. It has been identified that a significant portion of these costs should be allocated to the Operating Reserve Category. Although the categorisation of costs is not correct, we are confident that the total costs are correct in all months. We continue to investigate and will advise when we have a resolution.

ESO Actions | Category costs breakdown for w/c 26 December

Date	Total (£m)
26/12/2022	21.1
27/12/2022	14.8
28/12/2022	16.4
29/12/2022	17.7
30/12/2022	18.4
31/12/2022	19.0
01/01/2023	18.4
Weekly Total	125.8
Previous Week	107.4



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ESO Actions | Constraint Cost Breakdown and Settlement Period Analysis

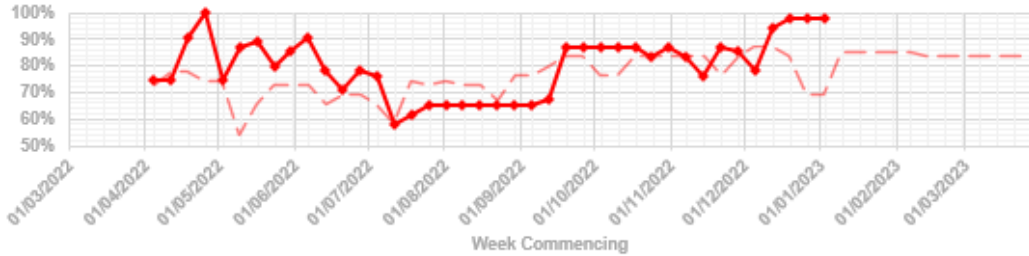
The data for these regular content slides is not available yet for w/c 19th Dec & 26th Dec.

These slides will be included as an annex in next week's pack.

Transparency | Network Congestion

B4/B5 TRANSFER CAPACITY

--- B4/B5 FORECAST — B4/B5



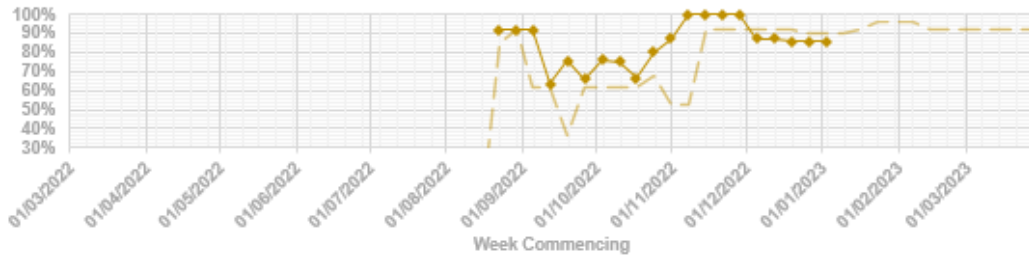
B6 TRANSFER CAPACITY

--- B6 FORECAST — B6

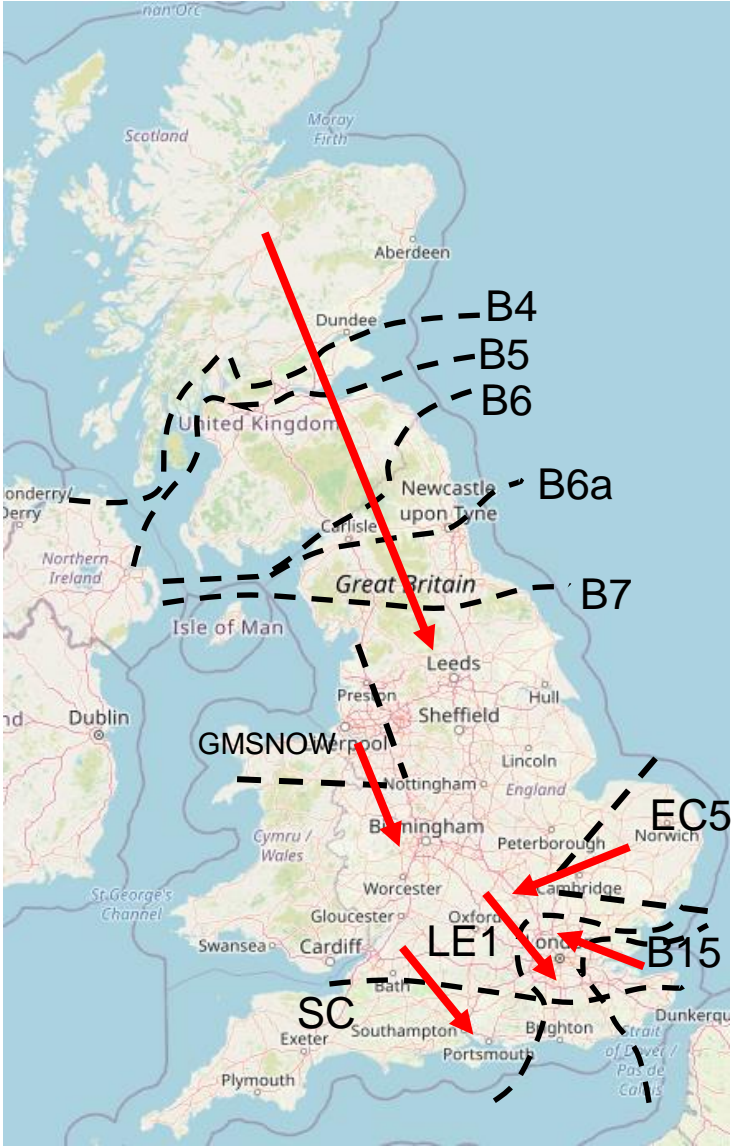


B6a (HARSPNBLY) TRANSFER CAPACITY

--- HARSPNBLY FORECAST — HARSPNBLY



Boundary	Max. Capacity (MW)
B4/B5	2750
B6	6200
B6a	6300
B7	9300
GMSNOW	4550
EC5	5000
LE1	8500
B15	7500
SC	7000

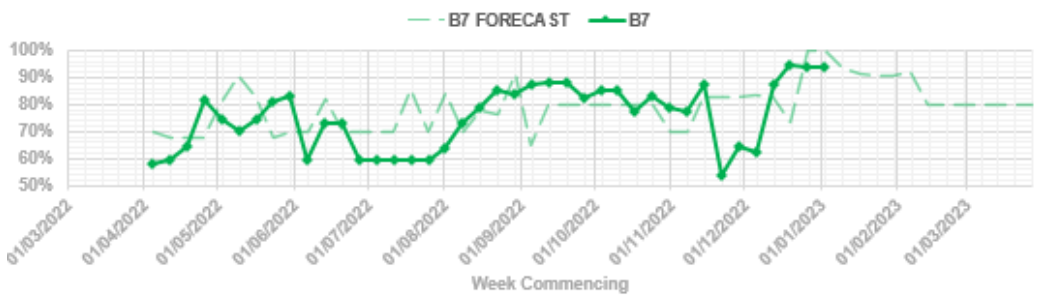


Day ahead flows and limits, and the 24 month constraint limit forecast are published on the ESO Data Portal:

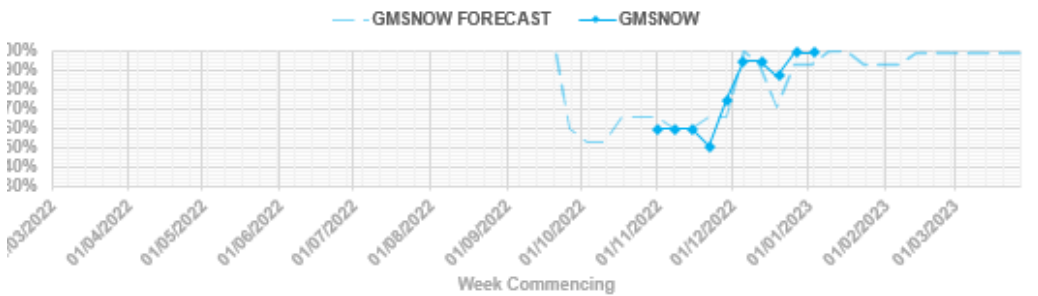
<https://data.nationalgrideso.com/data-groups/constraint-management>

Transparency | Network Congestion

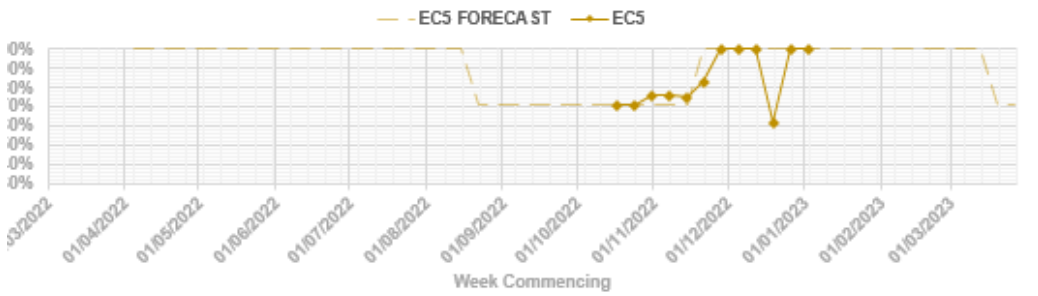
B7 TRANSFER CAPACITY



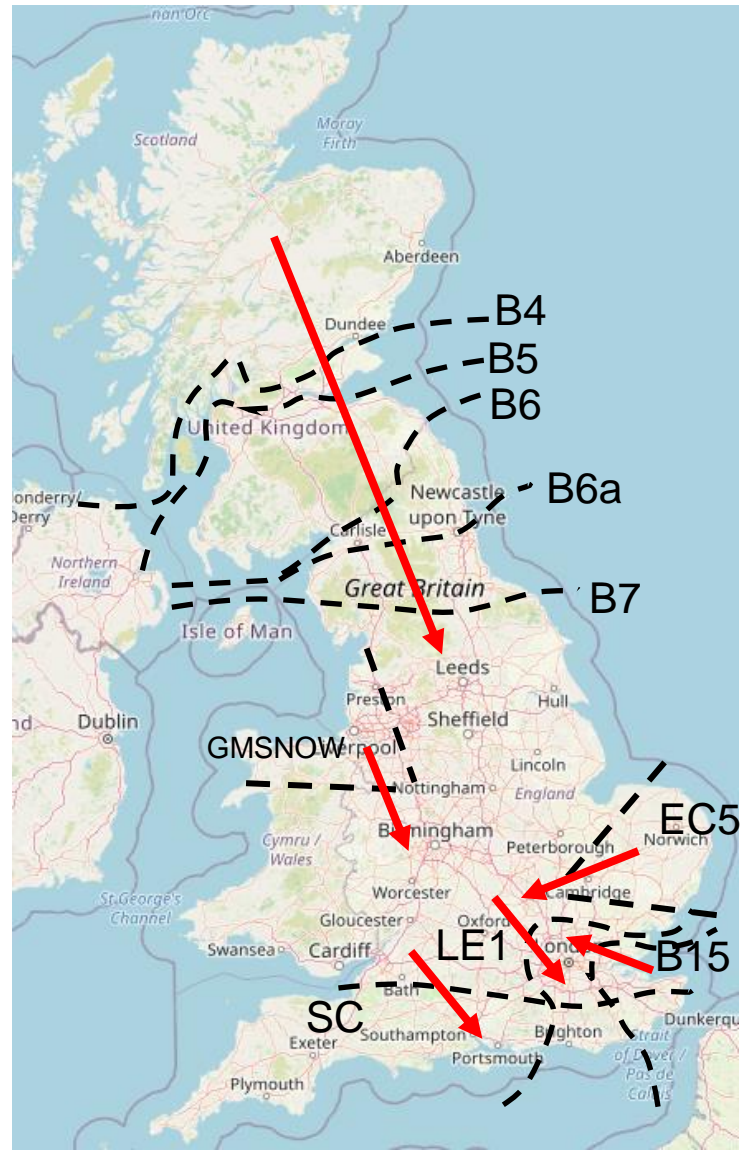
GMSNOW TRANSFER CAPACITY



EC5 TRANSFER CAPACITY

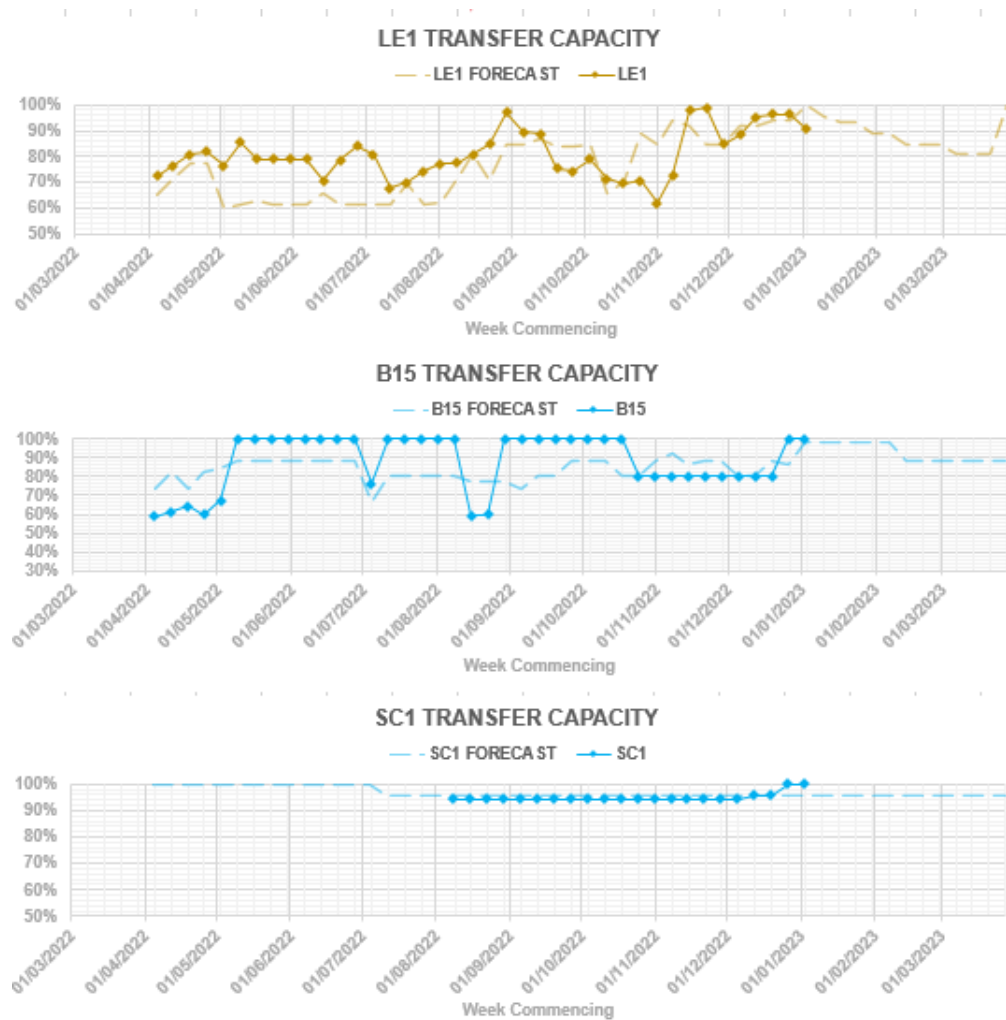


Boundary	Max. Capacity (MW)
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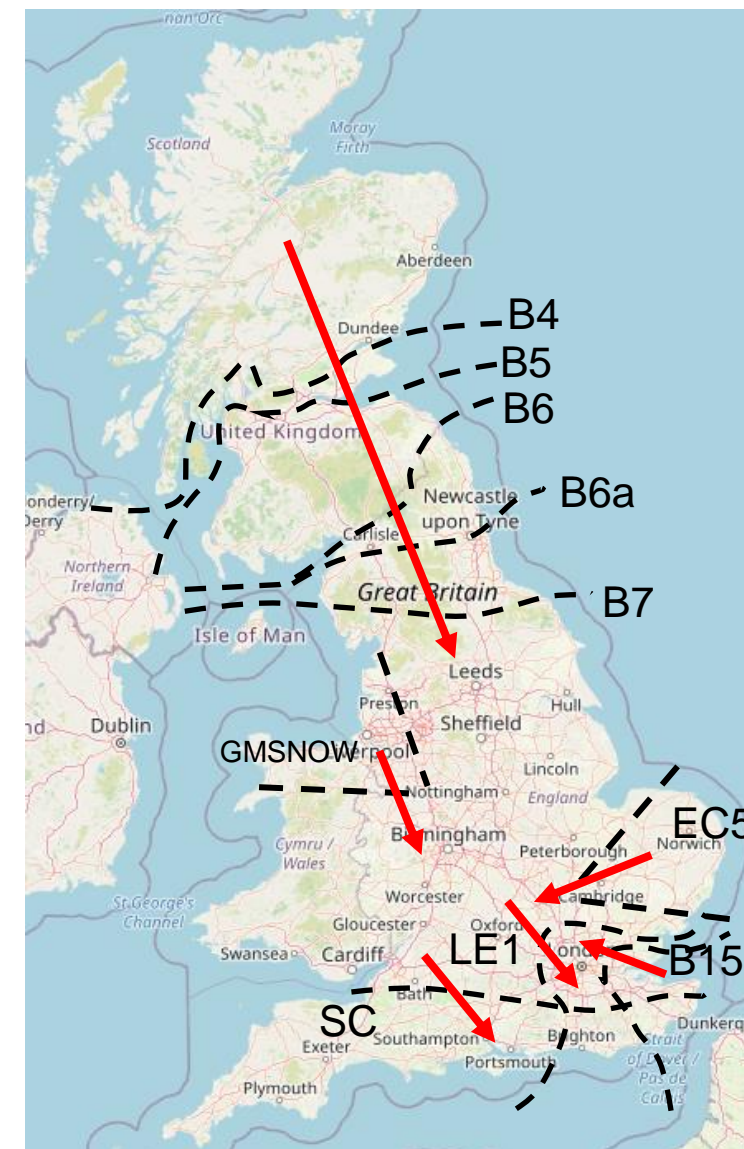


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Transparency | Network Congestion



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SC	7000



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Previous weeks questions

Q: Regarding LCM, how large is the potential market in MWs?

A: For design purposes only, scoping of LCM has been based on what we know of former Optional Downward Flexibility Management (ODFM) volumes: As a design envelope only, we estimate if LCM proves as successful, it could become relevant to market providers with maximum total of the order of 800MW.

In practice, many service and market factors influence the likely total combined MW availability to LCM. We expect to learn more in the Spring when market responses and take up may provide better evidence.

Q: For B6 there is a decision around whether the Irish network is being supported predominantly with flows from EWIC or Moyle interconnectors that will influence B6 by up to 1GW?

A: EWIC is outside the B6 Boundary. The timing of the final declaration of the MOYLE flows is such that LCM can be utilised with a great degree of certainty with regards to the Interconnector flow.

Q: LCM market - what is the min. threshold (1 MW) and how can you get consumers/ EVs storage to engage as this will be where most consumer benefit will be had?

A: Our updated Service Design shares our latest plans to widen access. This is to respond to stakeholder feedback where possible by removing the usual 1 MW minimum – this will depend on effective platform and service performance. We hope this may open engagement and may allow more aggregators to participate. Please see the Service Design available at <https://www.nationalgrideso.com/local-constraint-market>

Previous weeks questions

Q: What is confidential about two monopolies trading? Which code do we need to change to get this data published?

A: The actual prices used for settlement are included in BSAD but the pricing arrangements which lead to the price for that particular activation are currently confidential. This is being discussed with Ofgem. Updates will be provided in due course.

Q: How does emergency BSAD go into cashout if you are unable to publish prices?

A: This is being looked into as part of a BSC mod which is being progressed so these questions will be addressed as part of that working group.

Q: LCM market - Does the LCM assume voltage/stability services are still provided by transmission-connected gens/pathfinder projects?

A: LCM is separate to voltage or stability services. The assumptions made by the Operational Teams take into consideration all available products and facilities.

Q: LCM interim solution at B6 seems open to all, but understand RDP solution only open to projects with control and visibility in connection contracts. Are there plans to open enduring solution to all?

A: Please could you more clarification on this question and the ESO activity or currently plans that you would like to know more about?

Advance questions

Q: Regarding the day-ahead wind forecast data published on the data portal, 1. What is meant by 'incentive forecast'? Why does it differ from the wind forecast published on BMRS? 2. Why is the capacity listed below the installed capacity and what we have seen in the real-time generation data (FUELINST)?

A: In wind power our forecasting performance is measured as part of an incentive scheme at the day ahead stage. You will see on the Data Portal that we publish the wind forecast each day for this purpose. This is why it is called the incentive forecast. It is published once a day at around 09:00am.

The forecast that appears on the BM reports arrives there via our BM systems and is updated more frequently (about 4 times per day).

There will be times when the two forecasts differ from each other because one of them will be more up-to-date than the other at different times.

Q: Regarding the 14 days ahead wind forecast published on the data portal: 1. Why is the capacity listed less than what we have seen in outturn? 2. Could you please publish the historical forecasts?

A: On the subject of capacity we rely on the data from RenewableUK. It is a constant job to keep this information up to date as new wind farms are built, commissioned, operate, are de-commissioned, repowered, renamed and change ownership. The wind farm capacity information that we store tends to lag behind the information provided by RenewableUK. To help to improve this situation we have started doing a new import from Renewable UK monthly.

With this in mind it is quite possible that during the main wind farm construction season in the Summer the real capacity of all the wind farms in GB may be ahead of the capacity noted on RenewableUK and may be further ahead of the capacity information that is stored here at the ESO. This explains why you will occasionally see the out-turn exceed the capacity number that we have published.

Questions outstanding we are still working on

Q: Since August imbalance costs within BSUoS have flipped to be net negative. This is a significant departure from the previous few years. Is there a specific reason for this switch?

Q: If I have an existing PPA in the LCM market area, how will it be affected by the LCM?

Feedback

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