

July 2021

Winter Outlook

2021/22: Early view of margins

Helping to inform the electricity industry
and prepare for the winter ahead.

nationalgridESO

System margins / Early view of winter 2021/22

Following tighter margins in winter 2020/21 compared to previous winters, we have decided to publish an early view of the margin for winter 2021/22. We believe this will help to inform the electricity industry and support preparations for the winter ahead. We published the Winter Review and Consultation on 24 June 2021. This year's consultation is currently open and we welcome responses from stakeholders by 30 July 2021. This will help inform our analysis for the Winter Outlook Report, which will also include our more detailed operational view of winter, that is due to be published in October 2021. Responses to the consultation are invited via email to: marketoutlook@nationalgrideso.com

1 De-rated margin

Our base case view of de-rated margin for winter 2021/22 is currently 4.3 GW or 7.3%. This is slightly lower than last year, but the associated loss of load expectation (LOLE) of around 0.1 hours / year is well within the Reliability Standard of 3 hours set by Government.

While we remain confident there is sufficient supply to meet peak demand, we should prepare for some tight periods during the winter. For example this could be when plant outages are higher than expected (often experienced in the shoulder months), wind is low, or there is tightness in Europe at the same time that reduces imports. We may expect similar challenges this winter. We have a well-functioning market that responds to market signals, and the ESO may need to use its tools, including issuing margins notices, to manage these periods.

2 Supply

There is still some uncertainty in our view of de-rated margin for the winter, driven mainly by available supply. This could potentially see the de-rated margin range from 3.1 – 5.4 GW or 5.3 – 9% – still within the Reliability Standard of 3 hours LOLE set by Government.

One nuclear station has announced closure ahead of the winter, with a second one expected to close during winter. Coal availability dropped in winter 2020/21 and there remains uncertainty as these stations approach the end of their operational lives. The IFA2 interconnector to France came online during last winter and we expect the NSL interconnector to Norway to be operational from October 2021.

3 Demand

Our base case forecast for underlying average cold spell (ACS) peak demand is 59.5 GW, including operational reserve. This assumes that there is no suppression of peak demand in winter 2021/22 due to the ongoing COVID-19 pandemic.

The ACS peak demand forecast represents the total underlying demand in GB met by generation on the transmission and distribution networks. Last winter we assumed a 3 – 4% reduction in peak demand due to suppression from the ongoing COVID-19 pandemic. Given the intention to relax COVID-19 restrictions, the roll-out of the vaccination program and our assessment of out-turn demand in the Winter Review and Consultation for last winter, we have not forecast any suppression in peak demand for this winter coming.

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Our current view of the base case margin on the electricity system for winter 2021/22 is slightly lower than last winter. While the change from last winter is mainly driven by a higher peak demand forecast, there is still uncertainty on available supply for this winter.

Demand

We have assumed an underlying ACS peak demand forecast of 59.5 GW. This represents the total GB demand met by generation on the transmission and distribution networks. It includes 1.5 GW operational reserve. We have not assumed any suppression due to the ongoing COVID-19 pandemic. This is different from last winter, in which we assumed a suppression of 3 – 4 %.

Supply

Given public announcements, we have assumed that Dungeness B and Hunterston B nuclear power stations are unavailable for the full winter and so are not included in our assessment. Dungeness B has a Capacity Market agreement for 2021/22 and so this may represent potential upside to our current Base Case if this was traded to another capacity provider. We assumed that the rest of the nuclear fleet is available with an availability of 76%, based on the average of the last three winters.

We have assumed all coal units with Capacity Market agreements are available this winter with an availability of 60%, which is in line with the fleet availability from last winter. We have not assumed any coal units without a Capacity Market agreement will be operational this winter.

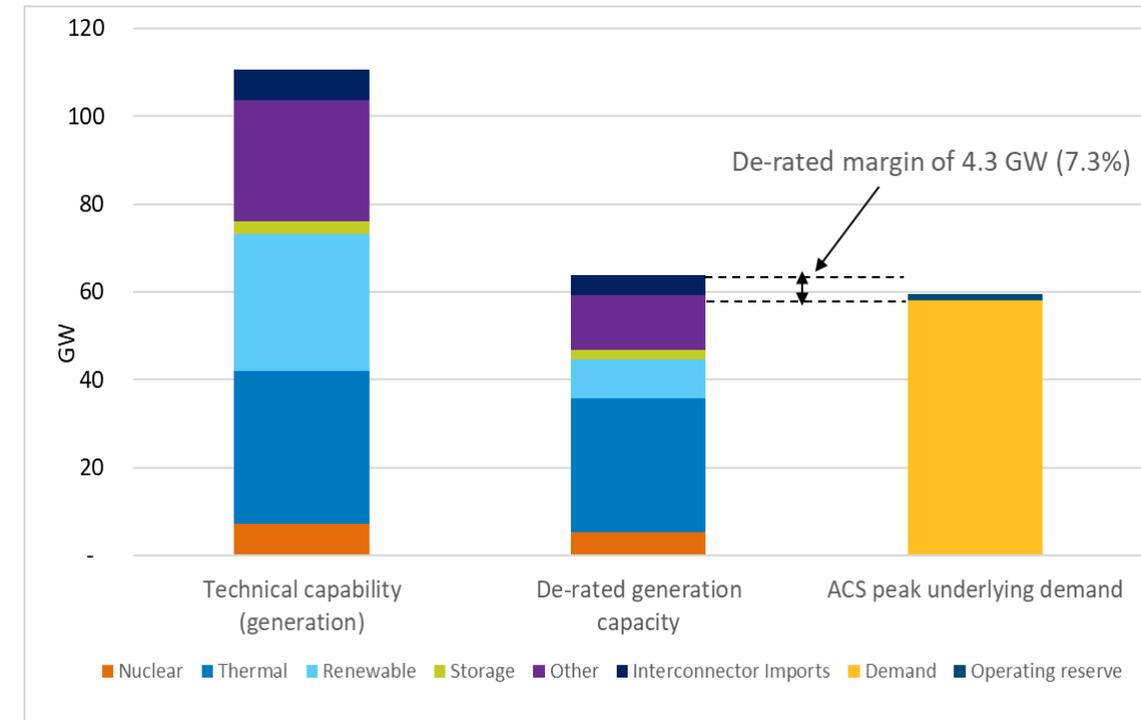
We have assumed that Baglan Bay, Severn Power and Sutton Bridge combined cycle gas turbine (CCGT) power stations remain unavailable this winter in line with publicly stated positions. We have assumed there are no new large gas-fired power stations.

Assumptions on renewables, storage and distributed generation capacity are consistent with those set out in the 2021 Future Energy Scenarios Five Year Forecast, published on 12 July 2021. Apart from coal and nuclear, all availability assumptions are based on the latest Capacity Market de-rating factors.

Interconnectors

We have assumed that IFA2 to France is available for the full winter having come online during winter 2020/21. We have assumed NSL to Norway will be operational from October – although we have adopted a conservative assumption in our current Base Case of half its capacity. If NSL is fully available this winter, then this would provide upside to our current Base Case view of de-rated margin. We have currently assumed that there are no other new interconnectors available this winter.

We have assumed net flows for other existing interconnectors are based on their Capacity Market de-rating factors for 2021/22 and our view of their operational capacity.



The de-rated margin represents the amount of supply we expect to have available against underlying peak demand. It represents a single snapshot view based on performance against long-term averages. This may differ from what out-turns and we should prepare for some tight periods this winter. For example, there could be higher levels of plant outage – often encountered in the shoulder months – or periods of low wind. Tightness in Europe could lead to higher European market prices and reduce imports.

System margins / Early view of winter 2021/22

Uncertainty on available supply could result in a de-rated margin ranging from 3.1 – 5.4 GW or 5.3 – 9%. The LOLE range of up to around 0.6 hours/year is still within the Reliability Standard of 3 hours set by Government

We have modelled a wide range of sensitivities that explore how the de-rated margin and LOLE could change if our demand and supply assumptions were different. This is intended to provide some insight on how the potential risks and opportunities for security of supply could change the outlook for this winter. In this assessment, we only show what we consider to be a credible range around our Base Case. In all cases, the modelling indicates that we expect to meet the Reliability Standard of 3 hours LOLE set by Government.

While it may be possible to stack multiple downside risks, such that the Reliability Standard would not be met, we do not consider this in our credible range. Great Britain has a well functioning electricity market and so we would expect a market response driven through higher prices to mean such an outcome would be less likely.

Lower margin range

The lower range in our assessment results in a de-rated margin of 3.1 GW or 5.3%. While the LOLE of 0.6 hours/year is still within the Reliability Standard, this would represent a level of tightness that has not been seen in the electricity market since before the Capacity Market delivery years started in 2017/18.

Such a situation could arise if 1.7 GW de-rated capacity assumed in our Base Case was not available (note that part of the shortfall would be offset by the wind Equivalent Firm Capacity (EFC) increasing by 0.5 GW). This would be equivalent to, for example, two large power stations closing ahead of winter; two interconnectors being expectedly on outage all winter; or a combination of higher peak demand and one power station / interconnector being unavailable all winter. We would not expect the lower range to occur due to higher peak demand alone, since this would represent peak demand being much higher than the credible range we assume in FES 2021 for this winter.

Upper margin range

The upper range in our assessment results in a de-rated margin of 5.4 GW or 9%. The corresponding LOLE is below 0.1 hours / year. While this results in a higher de-rated margin than last winter, we may still encounter tight periods in this case.

Such a situation could arise if an extra 1.4 GW de-rated capacity was available (note that part of the increase would be offset by wind EFC decreasing by 0.4 GW). This could be driven by a combination of different factors including: coal and nuclear availability being higher than last winter, closer to long-term averages; additional new interconnection being available; new capacity coming online earlier than expected; stations returning to the market that are currently assumed to be unavailable; lower peak demand.

