



UK Government

Capacity Market

Updated technical adjustment methodology
for de-rating interconnectors in the Capacity
Market



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Background to the update

All technologies which participate in the Capacity Market (CM) are de-rated to reflect their contribution to security of supply at times of system stress. The CM Rules set out how each technology that may participate in the CM is de-rated.¹ The multi-step process for determining interconnector de-rating factors is set out in Schedule 3A of these Rules.² The final step of this process is a technical adjustment which the government applies to reflect the technical reliability of interconnectors. The government commissioned Frontier Economics and LCP Delta to provide and recommend updated approaches to consider technical reliability which could be applied when determining interconnector de-rating factors.³

The government launched a Call for Evidence on Hydrogen to Power and Interconnectors in October 2025.⁴ The Call for Evidence sought stakeholder views on how to categorise Hydrogen to Power to inform potential changes to the CM to enable participation, and on a new approach for determining the technical reliability of interconnectors for the purpose of setting their de-rating factors, based upon the recommendation by Frontier Economics and LCP Delta.

In May 2026, the government published a formal response to this Call for Evidence in which the decision to update the technical adjustment methodology was communicated.⁵ In response to majority support to the proposal to publish a note to detail the methodology behind the technical adjustment, this document has also been published to detail the update to the methodology and to provide transparency for stakeholders over this process.

The updated methodology

The updated technical adjustment methodology is detailed in Table 1. This methodology is dependent on the length of time that each interconnector has been operational, and therefore the amount of historic availability data that can be used to consider technical availability. Where historic data is limited, the most recent Sinclair Knight Merz (SKM) technical availability model⁶ or the technical characteristics of the interconnector is used to derive availability (see Table 1).

Government will keep this methodology under review. Should government make changes to this methodology these will be communicated through a future update.

¹ DESNZ, [Capacity Market Rules](#), Chapter 2.3, accessed March 2026

² DESNZ, [Capacity Market Rules](#), Schedule 3A, accessed March 2026

³ DESNZ (2025), [Technical Derating factors for electricity interconnectors](#)

⁴ DESNZ (2025), [Capacity Market: Hydrogen to Power and interconnectors - GOV.UK](#)

⁵ DESNZ (2026), [Capacity Market: Call for evidence response on Hydrogen to Power and Interconnectors](#)

⁶ The SKM (developed by Sinclair Knight Merz and updated by GHD) is a standard engineering reliability model that estimates interconnector technical availability from component failure or repair rates; it underpins Ofgem's cap-and-floor availability targets and is freely available

Table 1 – Methodology for the technical adjustment for interconnector derating factors

Total number of winters with observed availability data “n”	Methodology for technical adjustment
$n < 1$ year	For new build interconnector Capacity Market Units (CMUs) with less than 1 year of operation, the technical adjustment is defined as the minimum of the availability range derived using the most recent SKM model, updated with any new engineering data, ⁷ or where there is little historic availability data, the technical characteristics of that interconnector.
$1 \leq n < 7$ years	For existing interconnector CMUs with between 1 and 7 years of operation, the model-based technical adjustment determined for $n < 1$ year is adjusted on an annual basis using a moving average. This reflects the CMU’s observed availability during periods of high demand in winter, to take into account updated historical availability data.
$n \geq 7$ years	For assets with 7 or more years of operation, the technical adjustment is defined as the interconnector’s average availability during periods of high demand over the last 7 winters. Seven years of operation is used as this aligns with NESO’s approach to availability data for calculating the de-rating factors for conventional generating technologies such as Combined Cycle Gas Turbines (CCGTs) and nuclear CMUs.
Refurbishing interconnector CMUs	If an interconnector bids into the CM as a refurbishing interconnector CMU, as defined by legislation, ⁸ then it may be considered as a new interconnector for this methodology.

⁷ New engineering data as published by CIGRE (the International Council on Large Electric Systems)⁸ DESNZ, [Capacity Market Rules](#), Rule 1.2; DESNZ, [The Electricity Capacity Regulations](#), accessed March 2026

Data sources for calculation

All data for the technical adjustment calculation will be sourced from publicly available databases. A summary of the data sources which will be used can be found in Table 2.

Table 2 – Data sources for the technical adjustment for interconnector derating factors

Data	Source
National Demand Outturn Data	Demand outturn data originates from NESO. ⁹ This data is provided in Settlement Periods. ¹⁰
Interconnector Availability Data	Actual availability data (including both planned and unplanned outages) can be obtained from REMIT ¹¹ (Regulation on Wholesale Energy Market Integrity and Transparency) and the European Network of Transmission System Operators for Electricity (ENTSO-E) Transparency Platform. ¹² Transmission System Operators (TSOs) are legally required to publish full fundamental availability data on the ENTSO-E Transparency Platform under EU legislation. ¹³ Validation checks against independent benchmarks are used to determine the most appropriate data source for each interconnector. Data source and validation checks will be kept under review and updated as necessary in future years.
High Demand Settlement Periods (HDSPs)	HDSPs are derived from National Demand Outturn Data and are defined under the Capacity Market Rules. ¹⁴ Using these criteria, the number of HDSPs is generated for the theoretical interconnector for every winter following its commissioning, or the most recent previous 7 winters.

Where required, the model-based availability for each interconnector will be sourced from the most recent SKM model,¹⁵ updated with any new engineering data. The SKM model is regularly updated by GHD when new interconnectors are commissioned, with the latest update published in 2021.¹⁶ If a SKM model is not published by GHD for an interconnector, its

⁹ NESO, [Demand Data Update](#), accessed March 2026

¹⁰ DESNZ, [The Electricity Capacity Regulations](#), accessed March 2026

¹¹ Elexon, [REMIT data](#), accessed March 2026

¹² ENTSO-E, [Transparency Platform](#), accessed March 2026

¹³ EU legislation, [Commission regulation \(EU\) No 543/2013](#), accessed March 2026

¹⁴ DESNZ, [Capacity Market Rules](#), Rule 1.2, accessed March 2026

¹⁵ Ofgem (2012), [SKM Report – Calculating Target Availability Figures for HVDC Interconnectors](#)

¹⁶ Ofgem (2021), [Calculating Target Availability Figures for HVDC Interconnectors – NeuConnect model](#)

technical characteristics will be input into the latest version of the SKM model to derive a technical availability.

For the de-rating factors set ahead of Prequalification 2026, the government will use historical HDSP data between November 2019 (the 2019/20 winter) and February 2026 (the 2025/26 winter). Data preceding the 2019/20 winter will not be required as the rolling average calculation requires a maximum of 7 recent years of data. Future calculations will roll this 7-year window forward annually.

Calculation formulae

The formulae detailed in Table 3 will be used to derive the technical adjustment for determining interconnector de-rating factors. The formulae used will depend upon the number of years the interconnector has been in operation.

For all these formulae, the following abbreviations are used:

- DRF_{SKM} is the technical de-rating factor derived using the SKM model
- n is used to denote the total number of winters with observed availability data
- i is used to denote the index for each winter's availability and maximum potential availability for the most recent previous winters, from $i = 1$ up to $i = 7$
- MPA_i stands for Maximum Potential Availability in a given year i , calculated by adding up the maximum potential availability, the installed capacity of the interconnector, for each HDSP
- TAA_i is the Total Actual Availability in a given year i , calculated by adding up the actual availability in each HDSP from historical availability data

Table 3 – Calculation formulae for the technical adjustment for interconnector de-rating factors

Total number of winters with observed availability data “n”	Calculation for technical adjustment
$n < 1$ year	DRF_{SKM}
$1 \leq n < 7$ years	$\frac{MPA_1 * DRF_{SKM} + \sum_1^n TAA_i}{MPA_1 + \sum_1^n MPA_i}$
$n \geq 7$ years	$\frac{\sum_1^7 TAA_i}{\sum_1^7 MPA_i}$

Worked example for a theoretical interconnector

This worked example illustrates how these calculation formulae are applied to derive the technical adjustment for a theoretical interconnector which connects Great Britain with Country X. As this worked example follows the derivation of technical adjustments for a theoretical interconnector at different stages of its operational life, fabricated demand and availability data have been used. The resultant technical adjustments determined for the theoretical interconnector for each year is detailed in Table 4.

The steps follow this methodology and assume that the theoretical interconnector has a full installed capacity of 0.8 GW. This value is used as the Maximum Potential Availability for all HDSPs. This example also assumes that the theoretical interconnector was commissioned in November 2019. Its initial technical availability is set equal to the SKM lower bound estimate of 98%.

Step 1 – Determination of Maximum Potential Availability for the theoretical interconnector

For each HDSP, Maximum Potential Availability is equal to the installed capacity of the theoretical interconnector, 0.8 GW. The sum of Maximum Potential Availability is therefore the installed capacity of the interconnector multiplied by the number of experienced HDSPs in the relevant winter.

$$\sum MPA = \text{no of HDSPs} * \text{installed capacity of interconnector}$$

In the example for year 1, 780 HDSPs are experienced by the theoretical interconnector in winter 2019/20. The sum of Maximum Potential Availability for the entirety of the 2019/20 winter would then be calculated as 624 GW.

$$\sum MPA = 780 * 0.8 = 624 \text{ GW}$$

Step 2 – Determination of Total Actual Availability for the theoretical interconnector

For each HDSP, Total Actual Availability is taken from the interconnector availability dataset which passes validation checks against independent benchmarks.

In the example for year 1, the assumed sum of Total Actual Availability of the theoretical interconnector in winter 2019/20 is 506.4 GW.

$$\sum TAA = 506.4 \text{ GW}$$

Step 3 – Determination of the availability for each winter for the theoretical interconnector

To increase transparency and to provide context regarding the changes in the calculated technical adjustment year-on-year, the interconnector's availability in each winter is also calculated. For each delivery year example, winter availability would be calculated as follows:

$$\text{Winter availability for a given delivery year} = \frac{\sum TAA}{\sum MPA}$$

In the example for year 1, the winter availability for 2019/20 would be calculated as 81.2%.

$$\text{Winter availability for a given delivery year} = \frac{506.4}{624.0} = 81.2\%$$

Step 4 – Calculation of the technical adjustment for the theoretical interconnector at different stages of its operational life.

Year 0: Winter 2018/2019

Where the theoretical interconnector is new and there is no operational data suitable for the calculation, the technical adjustment is set equal to the SKM technical availability lower bound estimate. In the example for year 0, the technical adjustment would be set as 98.0%.

$$\text{Technical adjustment} = DRF_{SKM}$$

$$\text{Technical adjustment} = DRF_{SKM} = 98.0\%$$

Years 1 – 6 (i.e. $1 \leq n < 7$): Winter 2019/20 to 2024/25

For these years, the technical adjustment determined for year 0 is adjusted on an annual basis using a moving average, in line with its observed availability during periods of high demand in winter. Here i is equal to the index for each winter's availability and Maximum Potential Availability, from $i = 1$ up to $i = 7$.

$$\text{Technical adjustment} = \frac{MPA_1 * DRF_{SKM} + \sum_1^n TAA_i}{MPA_1 + \sum_1^n MPA_i}$$

In the example for year 1, the technical adjustment for the theoretical interconnector for 2019/20 would be calculated as 89.6%.

$$\text{Technical adjustment} = \frac{624 * 0.98 + 506.4}{624 + 624} = 89.6\%$$

This formula is applied for subsequent winters up to 2024/25 and results are presented in Table 4.

Year 7 and beyond: From Winter 2025/26

Once 7 winters operational data exist, a rolling 7-year average is used to calculate the technical adjustment:

$$\text{Technical adjustment} = \frac{\sum_1^7 TAA_i}{\sum_1^7 MPA_i}$$

In the example for year 7, the technical adjustment for the theoretical interconnector for 2025/26 would be calculated as 93.4%.

$$\text{Technical adjustment} = \frac{640 + 633 + 729.7 + 684.3 + 634.4 + 605.1 + 506.4}{648.8 + 640 + 780 + 768 + 652 + 632 + 624} = 93.4\%$$

Table 4 – Illustrative HDSPs, winter availability and technical adjustments calculated for the theoretical interconnector¹⁷

Winter period (HDSP)	Operational year	Number of HDSPs	Sum of MPA (GW)	Sum of TAA (GW)	Winter availability	Technical adjustment
2018/19	Year 0 (SKM)	not applicable	not applicable	not applicable	98.0%	98.0%
2019/20	Year 1	780	624.0	506.4	81.2%	89.6%
2020/21	Year 2	790	632.0	605.1	95.7%	91.6%
2021/22	Year 3	815	652.0	634.4	97.3%	93.1%
2022/23	Year 4	960	768.0	684.3	89.1%	92.2%
2023/24	Year 5	975	780.0	729.7	93.6%	92.4%
2024/25	Year 6	800	640.0	633.0	98.9%	93.3%
2025/26	Year 7	811	648.8	640.0	98.6%	93.4%

¹⁷ The sum of MPA and TAA values in Table 4 are rounded to the nearest whole number for reporting purposes

Conclusions and next steps

The technical adjustment methodology detailed within this note and demonstrated using the theoretical interconnector example will be used when calculating the technical adjustments to be applied to interconnector de-rating factors for the CM ahead of Prequalification 2026 and in future years.

Government will keep this methodology under review. Should government make further updates to the technical adjustment methodology these will be communicated through a future note.

Glossary

Abbreviation/Term	Definition
Capacity Market Rules (“the CM Rules” or “the Rules”)	The CM Rules provide the technical detail for implementing the operating framework set out in the Regulations.
Combined Cycle Gas Turbine (CCGT)	(i) An electricity generation technology in which a gas turbine and a steam turbine are used in combination to achieve greater efficiency. (ii) A GTC in Schedule 3 of the CM Rules.
Capacity Market Unit (CMU)	A unit of electricity generation capacity or DSR capacity that can be put forward in a capacity auction. It is the product that forms the capacity to be purchased through the CM.
CM Delivery Body	National Energy System Operator (NESO).
De-rated Capacity	The capacity that a CMU is likely to be technically available to provide at times of peak demand, which is specific to the CMU’s technology type and individual characteristics.
De-rating Factor	De-rating factors are applied to all forms of electricity generation in the CM to reflect that 100% of capacity will not be available 100% of the time. This is because generating plants can break down from time to time, and wind and solar outputs varies day to day.
Electricity Capacity Regulations (“the CM Regulations” or “the Regulations”)	This refers to the Electricity Capacity Regulations 2014, S.I. 2014/2043, the principal regulations underpinning the CM.
Gigawatt (GW)	A unit of capacity (1000 megawatts).

High Demand Settlement Period (HDSP)	These are defined in the CM Rules as the periods of time when National Demand was above the 50 th percentile of the demand in all the Settlement Periods falling between 7am and 7pm Monday-Friday, from the first day of December until the last day of February in each winter.
Interconnector CMU	These are defined in the CM Regulations as an existing interconnector that has been commissioned, or a prospective interconnector which when commissioned (or recommissioned), that has a connection capacity not less than the minimum capacity threshold; and has net output measured by one or more half hourly meters in accordance with CM legislation.
National Energy System Operator (NESO)	An independent, public corporation responsible for planning Britain's electricity, gas and hydrogen networks, as well as operating the electricity system. In the GB electricity system, NESO performs several important functions, from second-by-second balancing of electricity supply and demand, to developing markets and advising on network investments. NESO replaced the National Grid Electricity System Operator on 1 October 2024.
Panel of Technical Experts (PTE)	An advisory group of independent consultants who were appointed by the government to perform a specific and technical function as part of the first Electricity Market Reform delivery plan process.
Refurbishing Interconnector CMU	These are defined in the CM legislation as an interconnector that is subject to an improvements programme and has not been recommissioned following that improvements programme
System Stress Event	A System Stress Event occurs only when i) a demand control event has occurred and ii) that demand control event has been confirmed after post-event analysis, conducted by NESO, to have been definitively triggered by a national shortage of generation resources.

Full list of data sources used for the technical adjustment

Table 5 details the data sources that will be used for future technical adjustment calculations. A new note will not be published if new interconnectors to GB are commissioned.

Table 5 – Data sources for currently operational interconnectors.

Interconnector	Interconnected country	High Demand Settlement Period data	Actual availability of each interconnector	Availability Model version used
Greenlink	Ireland	National demand outturn data from the NESO Data portal ¹⁸ will be used for all interconnectors	Availability data is taken from an availability dataset, e.g. the ENTSO-E Transparency Platform ¹⁹ or REMIT ²⁰ which passes validation checks against independent benchmarks	GHD 2020 ²¹
IFA2	France			GHD 2018 ²²
NeuConnect	Germany			GHD 2021 ²³
Nemo	Belgium			SKM 2013 ²⁴
North Sea Link (NSL)	Norway			GHD 2016 ²⁵
VikingLink	Denmark			GHD 2020 ²⁶
ElecLink	France			not applicable ²⁷
Britned	Netherlands			not applicable ²⁸
IFA1	France			
East West Interconnector (EWIC)	Ireland			
Moyle	Northern Ireland			

¹⁸ NESO, [Demand Data Update](#), accessed March 2026

¹⁹ ENTSO-E, [Transparency Platform](#), accessed March 2026

²⁰ Elexon, [REMIT data](#), accessed March 2026

²¹ Ofgem (2021), [Consultation on the Final Project Assessment of the Greenlink interconnector to Ireland and decision on Greenlink's needs case review](#)

²² Ofgem (2018), [Final Project Assessment of the IFA2 interconnector to France](#)

²³ Ofgem (2021), [Calculating Target Availability Figures for HVDC Interconnectors – NeuConnect model](#)

²⁴ Ofgem (2013), [Cap and Floor Regime for Regulated Electricity Interconnector Investment for application to project NEMO](#)

²⁵ Ofgem (2016), [Consultation on Final Project Assessment of the NSL interconnector to Norway](#)

²⁶ Ofgem (2020), [Decision on the Final Project Assessment of the Viking Link interconnector to Denmark](#)

²⁷ ElecLink has not received a cap and floor agreement and therefore there is no published SKM model for it. However, the SKM model may be run with the published technical characteristics of the ElecLink interconnector

²⁸ Availability model not required as these interconnectors have over seven years of operational data, meaning theoretical availability does not factor into the calculation of their technical availability

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