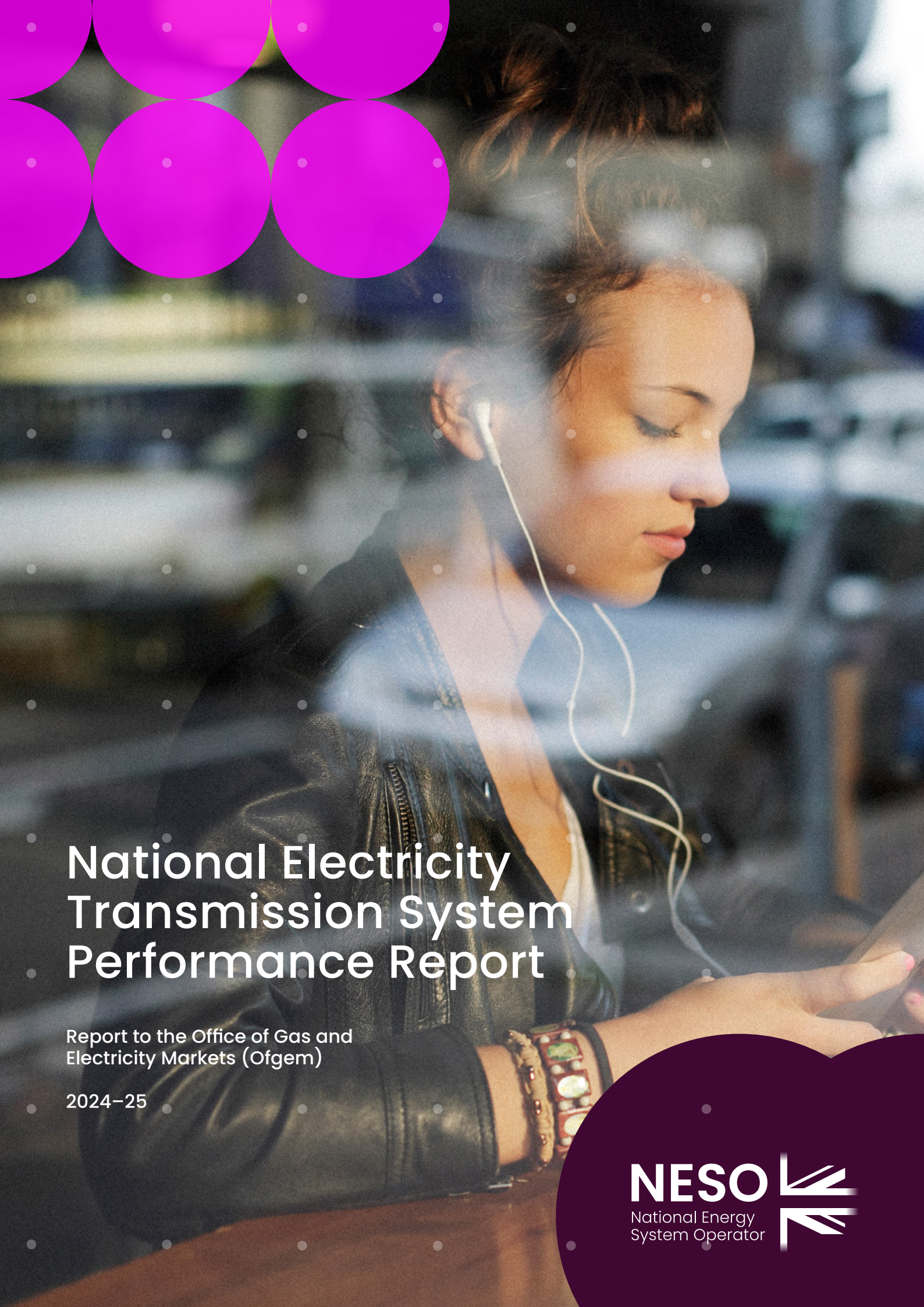


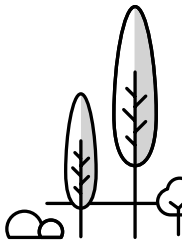
National Electricity Transmission System Performance Report

Report to the Office of Gas and Electricity Markets (Ofgem)

2024–25

NESO
National Energy System Operator

Contents



Section 5

Section 6

Introduction

This report details the performance of the National Electricity Transmission System in Great Britain for 2024-25, as required by Transmission Licence Standard Condition E7: Transmission System Security Standard and Quality of Service.

The National Electricity Transmission System (NETS) in Great Britain is comprised of both onshore and offshore transmission networks.

The onshore transmission networks are owned by National Grid Electricity Transmission plc (NGET) in England and Wales, SP Transmission plc (SPT) in south and central Scotland and Scottish Hydro Electric Transmission plc (SHE Transmission) in the north of Scotland. There is also a 2250MW HVDC undersea link between Hunterston in Western Scotland and Flintshire Bridge in North Wales, that is jointly owned by SPT and NGET.

The offshore transmission networks are owned by Transmission Capital (TC), Blue Transmission Investments Ltd (BT), Greater Gabbard OFTO plc, Triton Knoll OFTO Ltd, Seagreen Phase 1 OFTO Project Ltd, Gwynt-Y-Mor OFTO plc*, Thanet OFTO Ltd*, Humber Gateway OFTO Ltd*, West of Duddon Sands (WoDS) Transmission plc, Diamond Transmission Partners (DTP) BBEC Ltd, DTP RB Ltd, DTP Galloper Ltd, DTP Walney Extension Ltd, DTP Hornsea One Ltd and DTP Hornsea Two Ltd. *Note: Owned by Balfour Beatty and Equitix Consortium (BBEC).

Following the 2023 Energy Act which created the Independent System Operator and Planner, the National Energy System Operator Ltd was established on 1st October 2024 to succeed the National Grid Electricity System Operator Ltd as National Electricity Transmission System Operator (NETSO) for the onshore and offshore transmission networks.

In accordance with Standard Licence Condition E7 (Transmission System Security Standard and Quality of Service) of the Transmission Licence, the NETSO is required by the Office of Gas and Electricity Markets, to report on the annual performance of the National Electricity Transmission System in terms of availability, system security and quality of service.

The onshore and offshore transmission system broadly comprises circuits operating at 400, 275 and 132kV. The formal definition of the National Electricity Transmission System is contained in the NETS Grid Code and NETS Security and Quality of Supply Standard (NETS SQSS).

The fully interconnected transmission system provides a consistently high quality of supply and allows for the efficient bulk transfer of power from remote generation to demand centres.

Information relating to NG Electricity Transmission plc, SP Transmission plc, SHE Transmission plc, TC Robin Rigg OFTO Ltd, TC Barrow OFTO Ltd, TC Gunfleet Sands OFTO Ltd, TC Ormonde OFTO Ltd, TC Lincs OFTO Ltd, TC Westermost Rough OFTO Ltd, TC Dudgeon OFTO plc, TC Beatrice OFTO Ltd, TC Rampion OFTO Ltd, TC East Anglia One OFTO Ltd, TC Moray East OFTO Ltd, BT Walney 1 Ltd, BT Walney 2 Ltd, BT Sheringham Shoal Ltd, BT London Array Ltd, Greater Gabbard OFTO plc, Triton Knoll OFTO Ltd, Seagreen Phase 1 OFTO Project Ltd, Gwynt-Y-Mor OFTO plc, Thanet OFTO Ltd, Humber Gateway OFTO Ltd, WoDS Transmission plc, DTP BBEC Ltd, DTP RB Ltd, DTP Galloper Ltd, DTP Walney Extension Ltd, DTP Hornsea One Ltd and DTP Hornsea Two Ltd have been provided by the Transmission Owners in accordance with Licence Condition D4 (Transmission System Security Standard and Quality of Service) of their Transmission Licences.

When considering the performance of the transmission networks, it should be recognised that this can be influenced by both the Transmission Owners and the NETSO.

The National Electricity Transmission System is connected via interconnectors to transmission systems in Northern Ireland, Republic of Ireland, France, the Netherlands, Belgium, Norway, and Denmark.

The interconnectors with Northern Ireland and the Republic of Ireland fall outside the scope of this report, as they are regulated by the Northern Ireland Authority for Utility Regulation (NIAUR) and the Commission for Regulation of Utilities (CRU) respectively. The ElecLink interconnector is also excluded as it is regulated by Commission De Régulation De L'Énergie (CRE) of France.

Information relating to interconnectors with France (Interconnexion France–Angleterre IFA1 and IFA2), the Netherlands (BritNed), Belgium (NEMO Link), Norway (North Sea Link), Denmark (Viking Link) has been provided by National Grid Ventures.

National Electricity Tranmission System (GB Network)

Availability

The definitions and criteria for system availability can be found in the Glossary of terms at the end of this report.

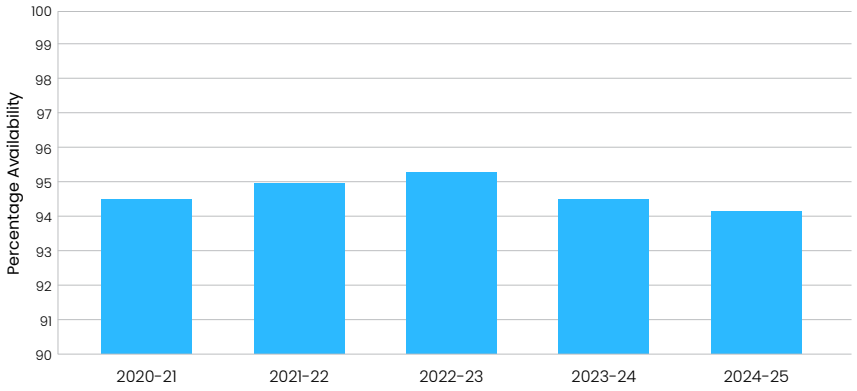
National Electricity Transmission System performance is monitored by reporting variations in Annual System Availability, Winter Peak System Availability and Monthly System Availability.

Annual System Availability

Annual System Availability of the National Electricity Transmission System for 2024-25 was: 94.15%

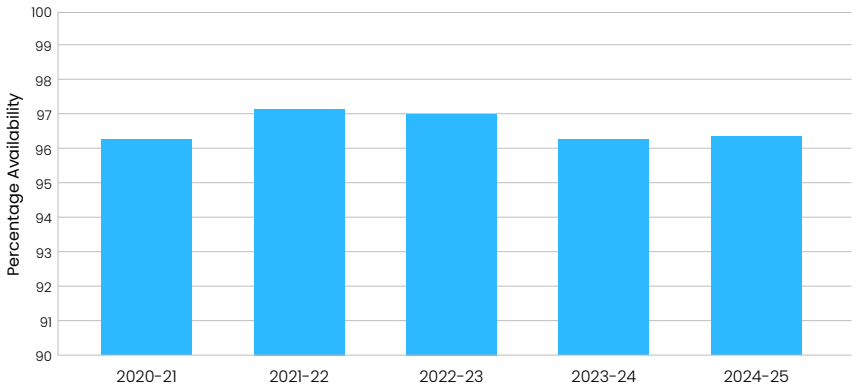
GB % Annual System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
94.50	94.99	95.24	94.42	94.15

% Annual System Availability

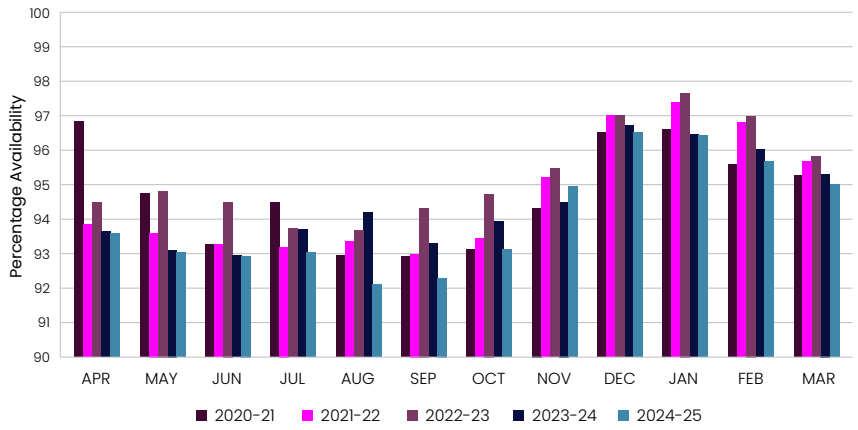


GB % Winter Peak System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
96.22	97.19	97.03	96.22	96.31

% Winter Peak System Availability



% Monthly System Availability



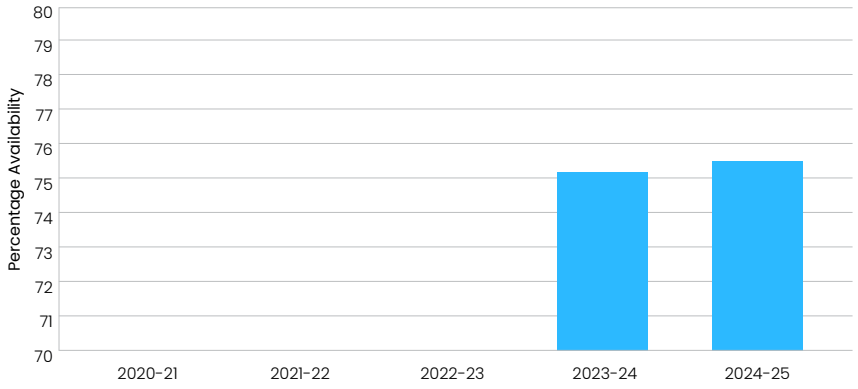
GB % Monthly System Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	96.84	93.83	94.48	93.69	93.60
May	94.68	93.55	94.73	93.15	93.04
Jun	93.24	93.22	94.47	92.97	92.84
Jul	94.43	93.16	93.70	93.64	93.02
Aug	92.92	93.31	93.60	94.25	92.10
Sep	92.90	92.96	94.28	93.34	92.39
Oct	93.10	93.40	94.72	93.96	93.15
Nov	94.32	95.21	95.38	94.54	94.98
Dec	96.45	97.01	97.01	96.75	96.51
Jan	96.58	97.39	97.63	96.50	96.44
Feb	95.57	96.78	96.99	96.00	95.76
Mar	95.30	95.73	95.86	95.36	95.04

Reactive Compensation Equipment Availability

The definitions and criteria for Reactive Compensation Equipment Availability can be found in the Glossary of terms at the end of this report.

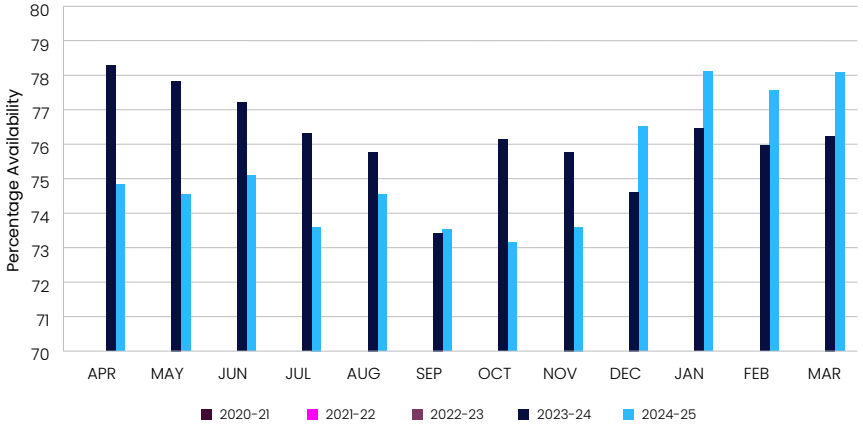
National Electricity Transmission System reactive compensation equipment performance is monitored by reporting variations in Annual and Monthly Reactive Compensation Equipment Availability.

% Annual Reactive Comp. Equipment Availability



GB % Annual Reactive Comp. Equipment Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
N/A	N/A	N/A	75.19	75.56

% Monthly Reactive Comp. Equipment Availability



GB % Monthly Reactive Comp. Equipment Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	N/A	N/A	N/A	78.24	74.85
May	N/A	N/A	N/A	77.83	74.49
Jun	N/A	N/A	N/A	77.22	75.16
Jul	N/A	N/A	N/A	76.28	73.59
Aug	N/A	N/A	N/A	75.78	74.62
Sep	N/A	N/A	N/A	73.45	73.63
Oct	N/A	N/A	N/A	76.15	73.19
Nov	N/A	N/A	N/A	75.75	73.59
Dec	N/A	N/A	N/A	74.60	76.66
Jan	N/A	N/A	N/A	76.48	78.18
Feb	N/A	N/A	N/A	76.00	77.49
Mar	N/A	N/A	N/A	76.25	78.11

Security

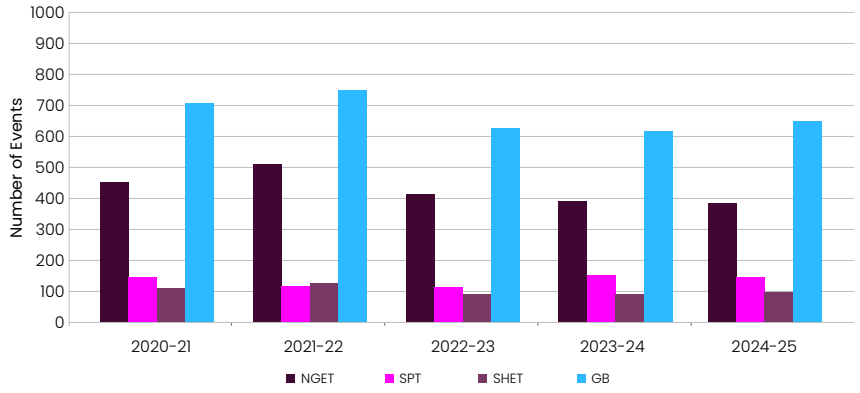
The definitions and criteria for system security can be found in the Glossary of terms at the end of this report.

System performance is monitored by the Estimated Unsupplied Energy from the National Electricity Transmission System for each incident.

During 2024-25 there were 644 NETS events where transmission circuits were disconnected either automatically or by urgent manual switching. Most of these events had no impact on electricity users with 28 resulting in loss of supplies to customers.

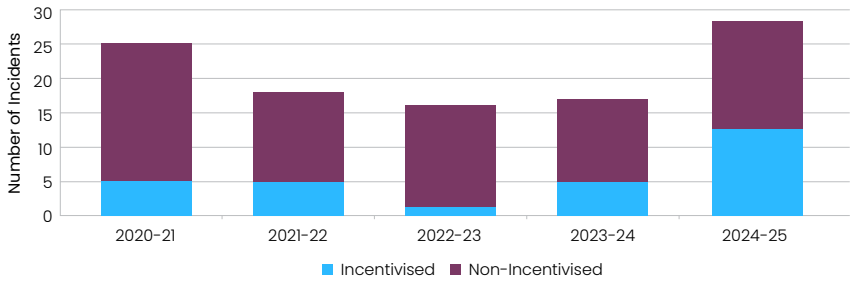
GB System Events					
	2020-21	2021-22	2022-23	2023-24	2024-25
NGET	455	517	412	390	394
SPT	138	115	118	148	152
SHET	113	119	89	89	98
GB	706	751	619	627	644

GB System Events



Number of Loss of Supply Incidents

The chart shows the annual comparison of the number of Loss of Supply Incidents that occurred within the National Electricity Transmission System.

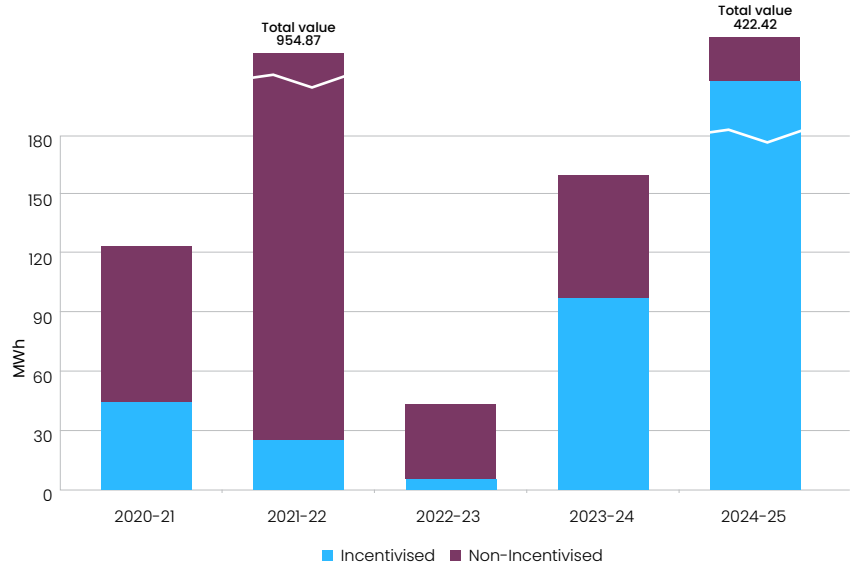


GB System – Number of Incidents					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	5	5	1	5	13
Non-Incentivised	20	13	15	12	15

Total Estimated Unsupplied Energy

The total Estimated Unsupplied Energy from the National Electricity Transmission System during 2024-25 was: **422.42 MWh**

The chart shows the annual comparison of the Estimated Unsupplied Energy for Loss of Supply Incidents that occurred within the National Electricity Transmission System.



GB System – Estimated Unsupplied Energy (MWh)					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	47.98	26.84	5.20	97.08	391.85
Non-Incentivised	76.85	928.03	38.48	62.70	30.57

Reliability of Supply

The Overall Reliability of Supply for the National Electricity Transmission System during 2024-25 was: **99.999818%**

compared with 99.999930% in 2023-24 and 99.999981% in 2022-23.

Quality of Service

Quality of service is measured with reference to system Voltage and Frequency. The criteria for reportable Voltage and Frequency Excursions can be found in the Glossary of terms at the end of this report.

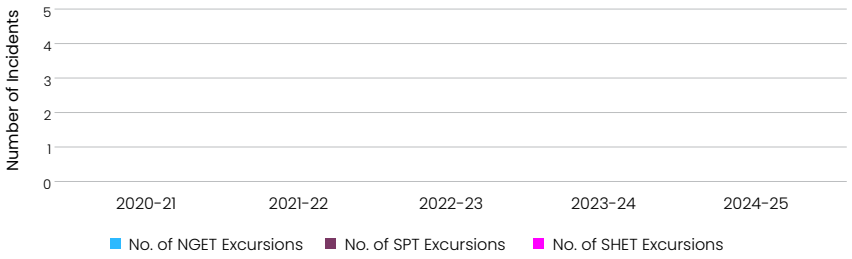
Voltage Excursions

During 2024-25 there were no reportable Voltage Excursions within the National Electricity Transmission System.

The chart below summarises the reportable Voltage Excursions that have occurred on the National Electricity Transmission System.

GB System – Voltage Excurisons					
	2020-21	2021-22	2022-23	2023-24	2024-25
Number of NGET Excursions	0	0	0	0	0
Number of SPT Excursions	0	0	0	0	0
Number of SHET Excursions	0	0	0	0	0

GB System Voltage Excursions



GB System Voltage Excursion

Incident Date, Time and Location	Nominal Voltage	Max Voltage	Duration
None			

Frequency Excursions

During 2024-25, there were no reportable Frequency Excursion within the National Electricity Transmission System. The previous Frequency Excursions were in the 2019-20 and 2008-09 reporting periods.

GB System – Frequency Excurisons					
	2020-21	2021-22	2022-23	2023-24	2024-25
Number of Excursions	0	0	0	0	0

GB System Frequency Excursions

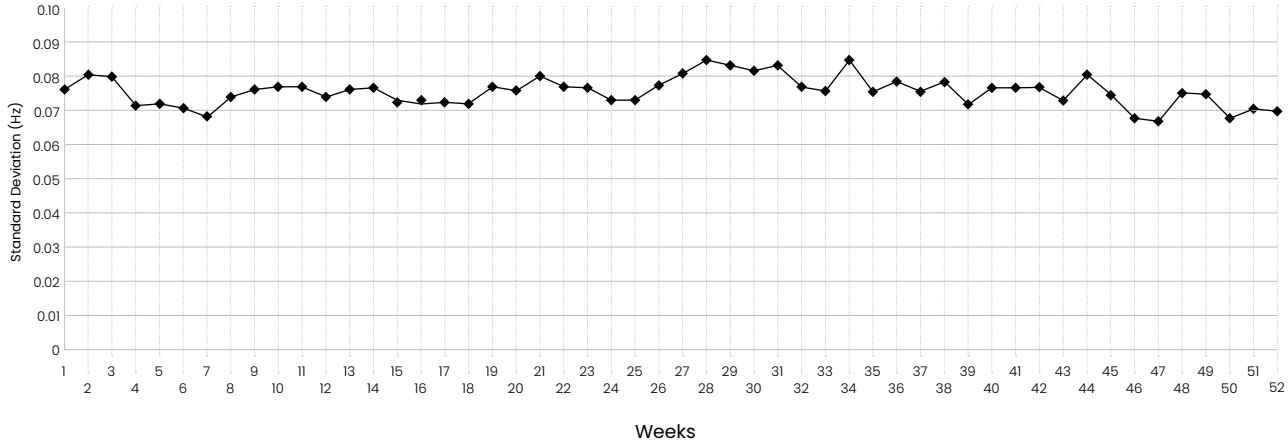
GB System Frequency Excursion

Incident Date & Time	Statutory Limits	Frequency	Duration
None	49.5 - 50.5Hz	N/A	0 seconds

Frequency Standard Deviation

The chart below displays the recorded Frequency Standard Deviation from 50Hz on a weekly basis for the year 2024-25.

GB System – Frequency Standard Deviation



National Grid Electricity Transmission System

System Description

The National Grid Electricity Transmission System operates at 400, 275 and 132kV supplying electricity to England and Wales.

The system covers an area of approximately 151,000 square kilometres and consists of over 14,000 circuit kilometres of overhead line and over 650 kilometres of underground transmission cable routes interconnecting over 300 substations.

It is connected to the SP Transmission System to the north and through six HVDC interconnectors to the Republic of Ireland, France, the Netherlands, Belgium, and Norway.

There are 68 large power stations totalling 61GW of generation capacity connected to the England and Wales transmission system. The NGET system supplies 12 distribution networks via over 132GVA of installed transformer capacity and a small number of directly connected customers such as steelworks and traction supplies.

In 2024-25 the maximum recorded demand on the network was 41.84GW.

Availability

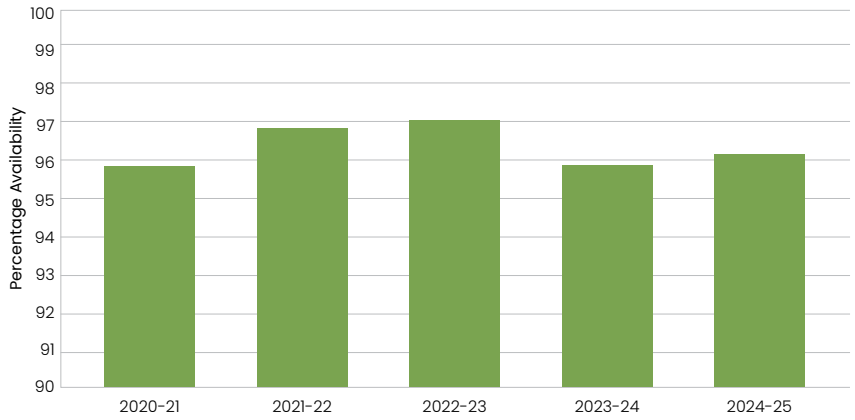
The definitions and criteria for system availability can be found in the Glossary of terms at the end of this report.

System performance is monitored by reporting variations in Annual System Availability, Winter Peak System Availability and Monthly System Availability. There is also a breakdown of Planned and Unplanned System Unavailability.

NGET % Annual System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
93.76	94.38	94.83	94.14	94.25

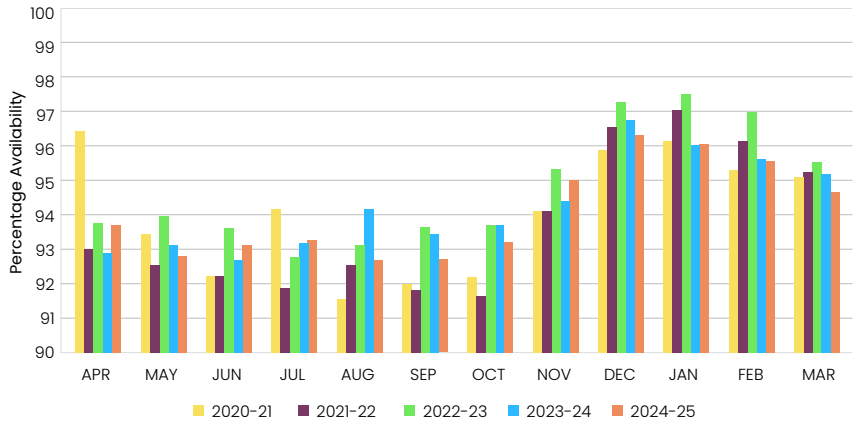
% Annual System Availability

% Winter Peak System Availability



NGET % Winter Peak System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
95.84	96.86	97.04	95.84	96.10

% Monthly System Availability

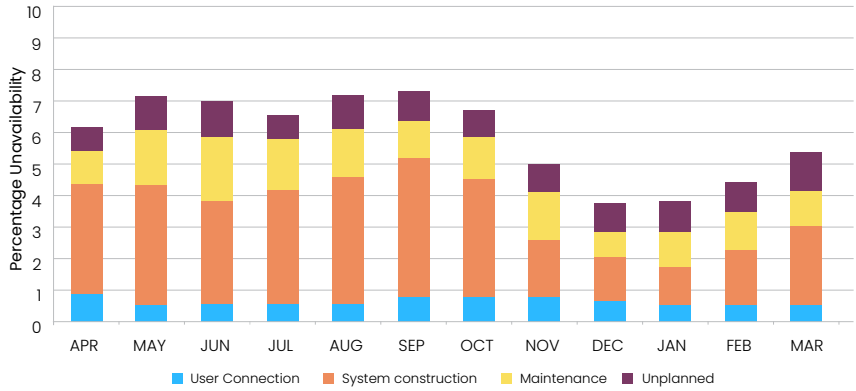


NGET % Monthly System Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	96.41	93.04	93.80	92.89	93.76
May	93.49	92.56	94.05	93.17	92.82
Jun	92.25	92.25	93.68	92.72	93.11
Jul	94.24	91.91	92.81	93.22	93.35
Aug	91.56	92.58	93.17	94.24	92.78
Sep	92.08	91.85	93.71	93.47	92.71
Oct	92.26	91.68	93.74	93.69	93.26
Nov	94.19	94.11	95.40	94.49	95.00
Dec	95.95	96.65	97.34	96.86	96.29
Jan	96.21	97.05	97.61	96.01	96.15
Feb	95.31	96.22	97.08	95.69	95.52
Mar	95.12	95.32	95.57	95.22	94.67

Monthly Planned and Unplanned System Unavailability

The table and the chart show the monthly variation in Planned and Unplanned System Unavailability.

Planned and Unplanned Unavailability (%) Transmission System



Planned and Unplanned Unavailability (%) for NGET Transmission System					
	User Connection	System Construction	Maintenance	Unplanned	Total
Apr	0.88	3.52	1.04	0.80	6.24
May	0.56	3.81	1.78	1.02	7.18
Jun	0.61	3.24	2.05	0.99	6.89
Jul	0.67	3.50	1.66	0.82	6.65
Aug	0.63	3.90	1.52	1.17	7.22
Sep	0.80	4.31	1.29	0.88	7.29
Oct	0.88	3.63	1.39	0.84	6.74
Nov	0.77	2.02	1.27	0.94	5.00
Dec	0.66	1.47	0.72	0.85	3.71
Jan	0.41	1.39	0.95	1.10	3.85
Feb	0.52	1.71	1.26	0.99	4.48
Mar	0.56	2.47	1.18	1.13	5.33

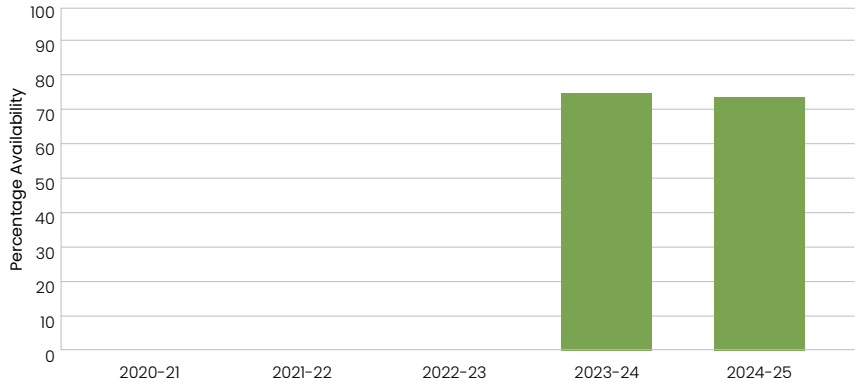
Reactive Compensation Equipment Availability

The definitions and criteria for Reactive Compensation Equipment Availability can be found in the Glossary of terms at the end of this report.

Reactive compensation equipment performance is monitored by reporting variations in Annual and Monthly Reactive Equipment Compensation Availability. There is also a breakdown of Planned and Unplanned Reactive Compensation Equipment Unavailability.

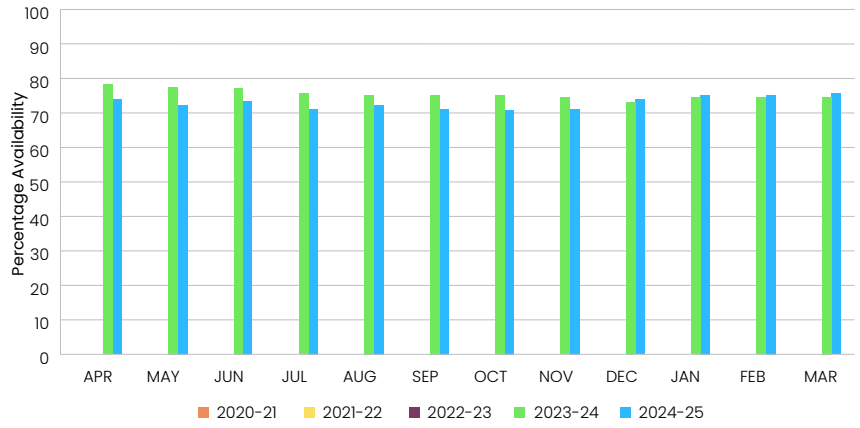
NGET % Annual Reactive Comp. Equipment Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
N/A	N/A	N/A	74.68	73.64

% Annual Reactive Comp. Equipment Availability



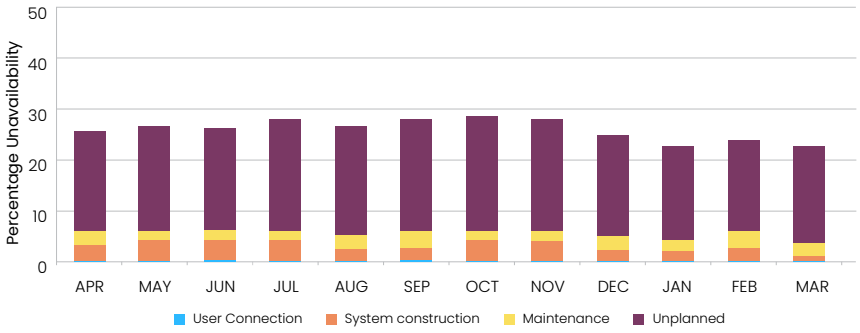
NGET% Monthly Reactive Comp. Equipment Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	N/A	N/A	N/A	78.34	73.31
May	N/A	N/A	N/A	77.91	72.48
Jun	N/A	N/A	N/A	77.21	73.02
Jul	N/A	N/A	N/A	76.47	71.57
Aug	N/A	N/A	N/A	75.90	72.32
Sep	N/A	N/A	N/A	74.59	71.76
Oct	N/A	N/A	N/A	75.03	70.99
Nov	N/A	N/A	N/A	74.42	71.46
Dec	N/A	N/A	N/A	73.67	74.31
Jan	N/A	N/A	N/A	75.24	76.21
Feb	N/A	N/A	N/A	75.60	75.94
Mar	N/A	N/A	N/A	75.16	76.69

% Monthly Reactive Comp. Equipment Availability



Planned and Unplanned Unavailability (%) for NGET Reactive Comp. Equipment					
	User Connection	System Construction	Maintenance	Unplanned	Total
Apr	0.02	3.23	3.05	20.38	26.69
May	0.34	3.67	1.92	21.60	27.52
Jun	0.59	3.53	2.29	20.57	26.98
Jul	0.40	3.65	2.60	21.77	28.43
Aug	0.02	2.50	2.35	22.81	27.68
Sep	0.19	2.06	2.29	23.70	28.24
Oct	0.67	2.66	2.39	23.28	29.01
Nov	0.70	2.56	2.36	22.93	28.54
Dec	0.27	1.97	2.42	21.03	25.69
Jan	0.12	2.31	1.83	19.52	23.79
Feb	0.15	2.40	2.49	19.00	24.06
Mar	0.09	1.37	2.32	19.52	23.31

Planned and Unplanned Unavailability (%) Reactive Comp. Equipment



Security

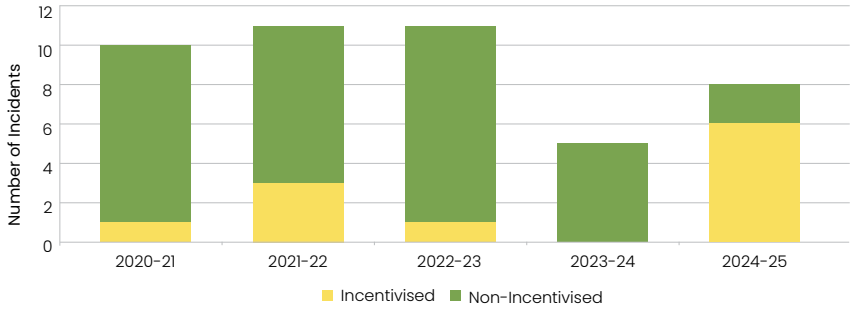
The definitions and criteria for system security can be found in the Glossary of terms at the end of this report.

System performance is monitored by the Estimated Unsupplied Energy from the NGET Transmission System for each incident.

During 2024-25 there were 394 NGET system events where transmission circuits were disconnected either automatically or by urgent manual switching. Most of these events had no impact on electricity users with 8 resulting in loss of supplies to customers.

Number of Loss of Supply Incidents

The chart shows the annual comparison of the number of Loss of Supply Incidents that occurred within the NGET Transmission System.

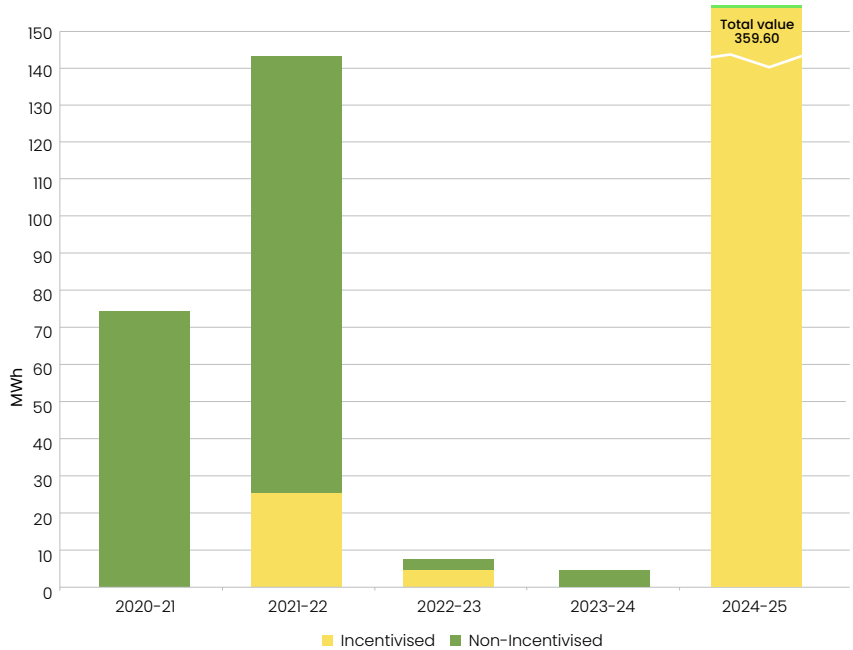


NGET System – Number of incidents					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	1	3	1	0	6
Non-Incentivised	9	8	10	5	2

Total Estimated Unsupplied Energy

The total Estimated Unsupplied Energy from the NGET Transmission System during 2024-25 was: **359.60 MWh**

The chart shows the annual comparison of the Estimated Unsupplied Energy for Loss of Supply Incidents that occurred within the NGET Transmission System.



NGET System – Estimated Unsupplied Energy (MWh)					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	0.00	26.70	5.20	0.00	359.20
Non-Incentivised	74.36	116.70	1.90	4.30	0.40

Reliability of Supply

The Overall Reliability of Supply for the NGET Transmission System during 2024-25 was: **99.999832%**

compared with 99.999998% in 2023-24 and 99.999997% in 2022-23.

Loss of Supply Incident Details

NGET Loss of Supply Incidents – Incentivised

Incident Date, Time and Location	MW Lost	Mins	MWh Unsupplied
12 April 2024 18:41 at Bushbury 275/132kV Substation The Bushbury - Willenhall 275kV circuit and Bushbury SGT 3 tripped, Bushbury SGT3 auto isolated and the remaining equipment was automatically returned to service. Site investigation showed there had been a failure of the red phase bushing of circuit breaker 380. The location of the fault meant that the 132kV busbar protection had correctly operated, clearing Main Busbar 2 and associated NGED circuits. Customers were restored in stages by NGED switching on their network.	30.2	12*	2.60
06 September 2024 03:28 at Hartmoor 275/66kV Substation The Hartlepool - Hartmoor circuit and Hartmoor SGT1 tripped whilst the Hartmoor - Hawthorn Pit circuit was already out of service for maintenance, disconnecting demand being supplied from Hartmoor. Site investigation found that a flashover had occurred on a through wall bushing on the Hartlepool - Hartmoor circuit at Hartlepool. Customers were restored in stages by NPG switching on their network.	11.8	16*	2.90
16 September 2024 10:45 at Hinkley Point 275kV Substation At Hinkley Point 400kV substation, planned work was being carried out on the battery system and a standby supply was in use. During some HV switching for a planned outage, a voltage spike caused the 400kV circuit breaker of SGT5 to open, offloading it. Due to the configuration of Hinkley Point 275kV substation, the impact of this was a loss of supply to Hinkley Point A, B and C power stations.	10.4	23*	3.60
24 November 2024 09:38 at Hinkley Point 275kV Substation Towards the end of Storm Bert, the Hinkley Point 400kV live water wash system commenced a site wash, this was triggered automatically. At the end of the wash the last valve operated to wash sections of SGT6 circuit, which tripped. It is thought this was due to pollution build up. Due to the configuration of Hinkley Point 275kV substation, the impact of this was a loss of supply to Hinkley Point A, B and C power stations.	9.8	231*	9.80
05 January 2025 04:59 at Hutton 400/25kV Substation The Heysham - Hutton - Penwortham 400kV circuit, along with Hutton SGT3A and SGT3B, tripped during stormy weather conditions. All equipment apart from SGT3B (which supplies Network Rail's Oxenholme demand) returned to service automatically within a minute, as per design. Network Rail's SGT3B LV circuit breaker did not open, and Network Rail re-switched their system to resupply from elsewhere. Hutton SGT2 was already out of service. There was no demand being taking at the time of the trip.	0.0	25	0.00
20 March 2025 23:49 at North Hyde 275/66kV Substation North Hyde SGT3 and the Iver 12 circuit tripped at 23:21 and remained out of service. The autoclose scheme successfully put SGT2 on load. At 23:49, SGT1 and the Iver 11 circuit tripped, isolating SGT2 and disconnecting demand being supplied from North Hyde 66kV substation. Customers were restored in stages by SSEN switching on their network.	93.2	1663	340.30
Total			**359.20**

NGET Loss of Supply Incidents - Non-Incentivised

Incident Date, Time and Location	MW Lost	Mins	MWh Unsupplied
12 April 2024 18:41 at Bushbury 275/132kV Substation The Bushbury - Willenhall 275kV circuit and Bushbury SGT 3 tripped, Bushbury SGT3 auto isolated and the remaining equipment was automatically returned to service. Site investigation showed there had been a failure of the red phase bushing of circuit breaker 380. The location of the fault meant that the 132kV busbar protection had correctly operated, clearing Main Busbar 2 and associated NGED circuits. Customers were restored in stages by NGED switching on their network. This figure relates to the MWh restored during the first 3 minutes of the incident which is not incentivised.			0.10
04 June 2024 14:00 at South Shields 275/33kV Substation West Bolden SGT1 tripped, along with West Bolden mesh corner 1, the South Shields - West Bolden 275kV circuit, South Shields mesh corner 1 and South Shields SGT1. South Shields demand was at single circuit risk at the time due to an outage of SGT2. West Bolden SGT1 auto-isolated and all other equipment was returned to service by DAR, restoring South Shields demand within a minute. The cause of the fault was determined to be incorrect CT wiring which caused the SGT to trip coincidentally with a Northern Power Grid feeder circuit during torrential rain.	25.6	1	0.30
10 August 2024 10:52 at Staythorpe B 132/25kV Substation A birds nest on a wooden pole overhead line route caused a phase to phase fault on the Staythorpe GT3 circuit which supplies Network Rail demand, although no demand was being taken at the time of the trip.	0.0	5	0.00
Total			**0.40**

Scottish Power Transmission System

System Description

The SP Transmission System comprises approximately 4000 circuit kilometres of overhead line and cable and 160 substations operating at 400, 275, 132 and 33kV supplying approximately 2 million customers and covering an area of 22,951 square kilometres. It is connected to the SHE Transmission System to the north, the NGET Transmission System to the south and the Northern Ireland Transmission System via an HVDC interconnector.

There are 9 major demand customers supplied directly from the SP Transmission System with the majority of the load being taken by approximately 2 million customers connected to the SP Distribution System via 14.9 GVA of installed transformer capacity. There is approximately 7.3GW of directly connected and Large Embedded generation capacity connected in the SP Transmission area, including 50 power stations directly connected to the SP Transmission system. In 2024-25 the maximum recorded demand on the network was 3.52GW.

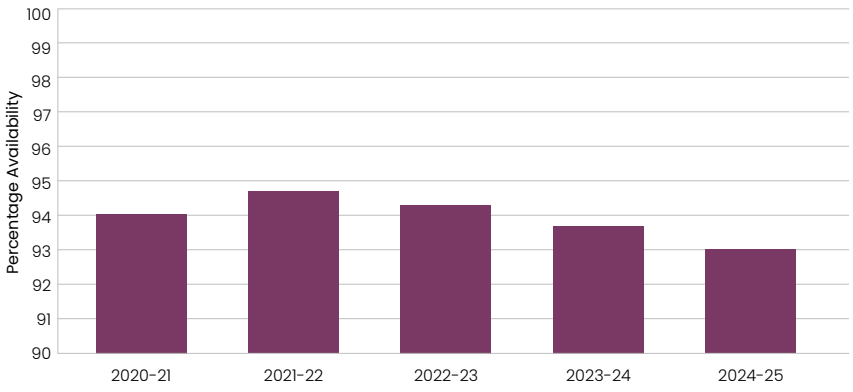
Availability

The definitions and criteria for system availability can be found in the Glossary of terms at the end of this report.

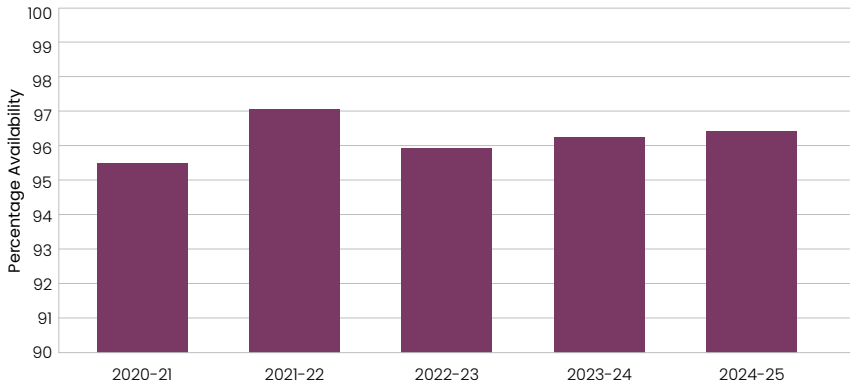
System performance is monitored by reporting variations in Annual System Availability, Winter Peak System Availability and Monthly System Availability. There is also a breakdown of Planned and Unplanned System Unavailability.

SPT % Annual System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
94.00	94.67	94.25	93.67	93.04

% Annual System Availability

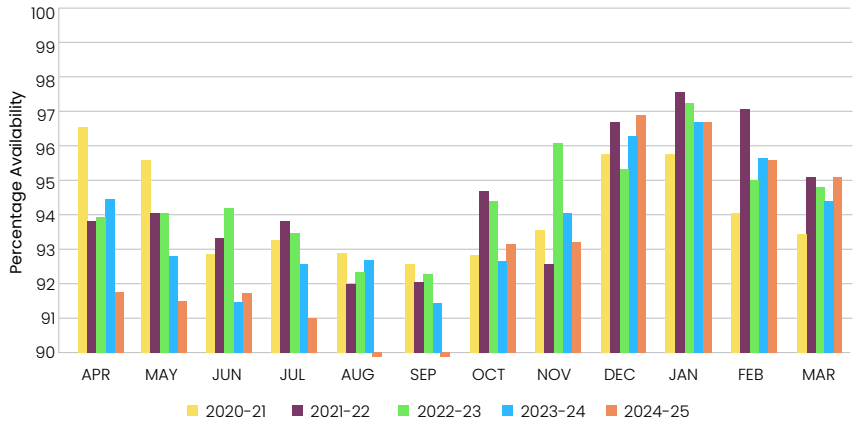


% Winter Peak System Availability



SPT % Winter Peak System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
95.24	97.11	95.88	96.22	96.43

% Monthly System Availability

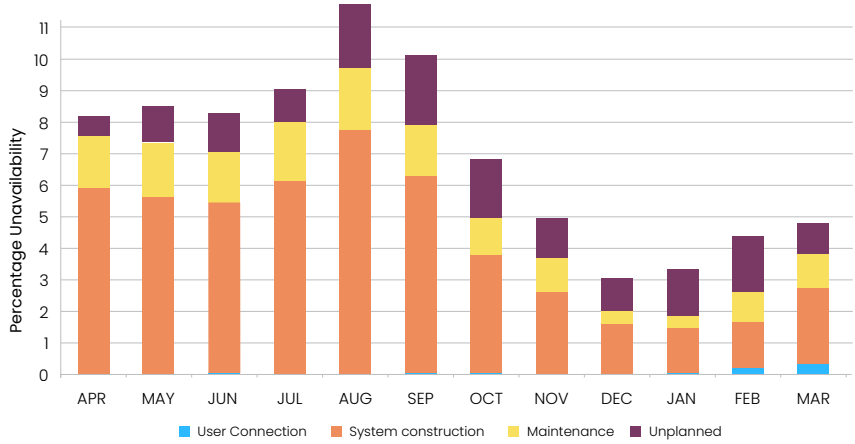


SPT % Monthly System Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	96.61	93.81	93.91	94.47	91.78
May	95.61	94.06	94.05	92.76	91.53
Jun	92.82	93.31	94.16	91.39	91.67
Jul	93.27	93.81	93.45	92.54	90.98
Aug	92.81	91.95	92.29	92.66	88.30
Sep	92.51	92.07	92.25	91.38	89.83
Oct	92.81	94.68	94.41	92.63	93.12
Nov	92.53	96.04	94.03	93.20	95.05
Dec	95.75	96.67	95.31	96.27	96.92
Jan	95.77	97.57	97.25	96.68	96.70
Feb	94.09	97.08	94.99	95.66	95.60
Mar	93.39	95.11	94.76	94.38	95.13

Monthly Planned and Unplanned System Unavailability

The table and the chart show the monthly variation in Planned and Unplanned System Unavailability.

Unavailability is defined as (100 - Availability) %



Planned and Unplanned Unavailability (%) for SP Transmission System					
	User Connection	System Construction	Maintenance	Unplanned	Total
Apr	0.00	5.98	1.59	0.65	8.22
May	0.00	5.75	1.58	1.14	8.47
Jun	0.06	5.37	1.69	1.20	8.33
Jul	0.00	5.98	2.02	1.02	9.02
Aug	0.00	7.72	2.11	1.87	11.70
Sep	0.04	6.38	1.44	2.31	10.17
Oct	0.16	3.68	1.13	1.91	6.88
Nov	0.00	2.65	1.07	1.23	4.95
Dec	0.00	1.62	0.38	1.08	3.08
Jan	0.03	1.35	0.54	1.37	3.30
Feb	0.22	1.54	0.89	1.76	4.40
Mar	0.32	2.43	1.09	1.02	4.87

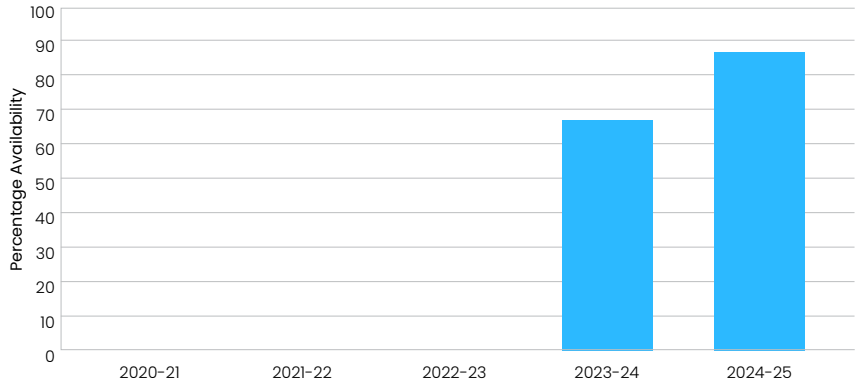
Reactive Compensation Equipment Availability

The definitions and criteria for Reactive Compensation Equipment Availability can be found in the Glossary of terms at the end of this report.

Reactive compensation equipment performance is monitored by reporting variations in Annual and Monthly Reactive Compensation Equipment Availability. There is also a breakdown of Planned and Unplanned Reactive Compensation Equipment Unavailability.

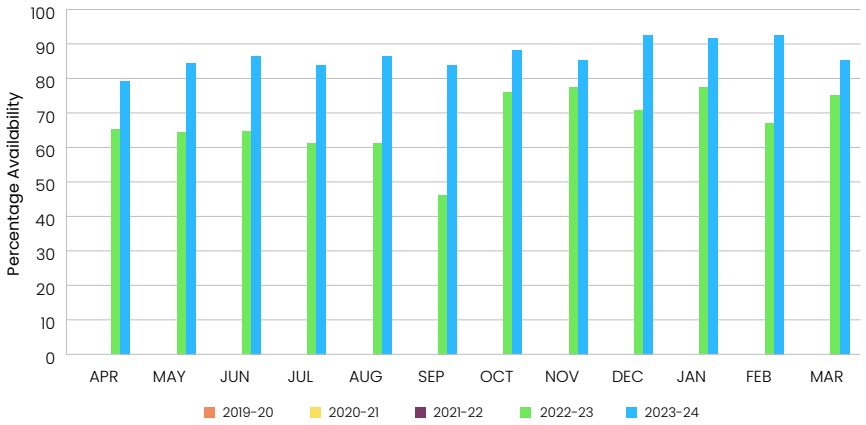
% Annual Reactive Comp. Equipment Availability

SPT % Annual Reactive Comp. Equipment Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
N/A	N/A	N/A	66.88	86.84



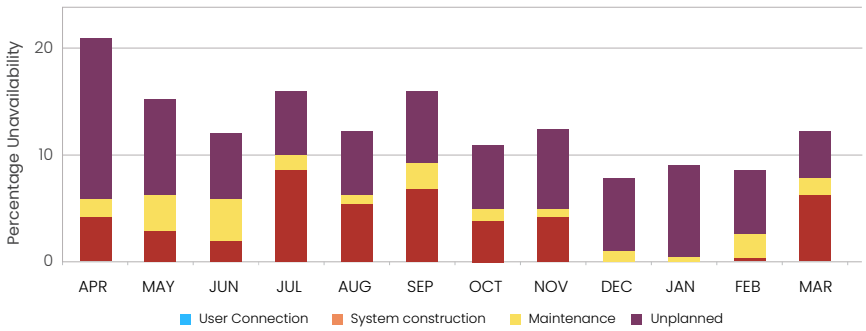
% Monthly Reactive Comp. Equipment Availability

SPT % Monthly Reactive Comp. Equipment Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	N/A	N/A	N/A	64.76	79.42
May	N/A	N/A	N/A	64.34	84.91
Jun	N/A	N/A	N/A	64.35	87.51
Jul	N/A	N/A	N/A	60.63	83.78
Aug	N/A	N/A	N/A	60.64	87.70
Sep	N/A	N/A	N/A	45.71	83.75
Oct	N/A	N/A	N/A	75.24	88.57
Nov	N/A	N/A	N/A	76.96	86.04
Dec	N/A	N/A	N/A	70.58	91.92
Jan	N/A	N/A	N/A	77.02	90.51
Feb	N/A	N/A	N/A	66.79	91.81
Mar	N/A	N/A	N/A	75.03	86.29



Monthly Planned and Unplanned Reactive Comp. Equipment Unavailability

Planned and Unplanned Unavailability (%) for SPT Reactive Comp. Equipment					
	User Connection	System Construction	Maintenance	Unplanned	Total
Apr	0.00	4.14	1.70	14.74	20.58
May	0.00	3.21	3.24	8.64	15.09
Jun	0.00	2.70	3.50	6.29	12.49
Jul	0.00	8.54	1.36	6.32	16.22
Aug	0.00	4.96	1.06	6.29	12.30
Sep	0.00	7.78	1.48	7.00	16.25
Oct	0.00	3.56	0.93	6.94	11.43
Nov	0.00	3.75	0.64	9.56	13.96
Dec	0.00	0.00	1.06	7.02	8.08
Jan	0.00	0.00	0.84	8.65	9.49
Feb	0.00	0.26	1.62	6.31	8.19
Mar	0.00	6.14	1.23	6.34	13.71



Security

The definitions and criteria for system security can be found in the Glossary of terms at the end of this report.

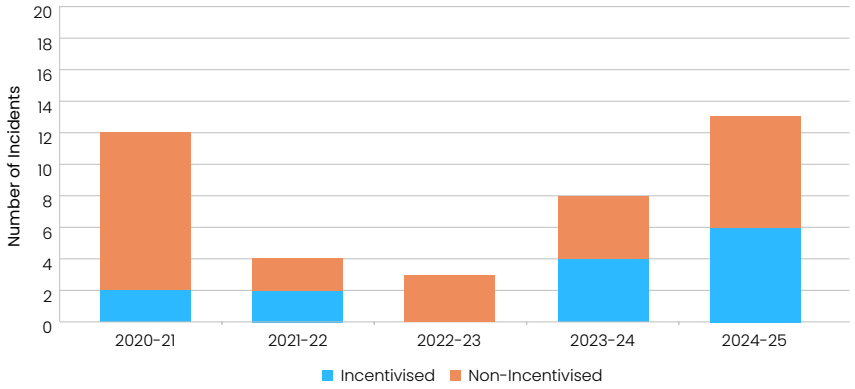
System performance is monitored by the estimated unsupplied energy from the SP Transmission System for each incident.

During 2024-25 there were 152 SPT system events where transmission circuits were disconnected either automatically or by urgent manual switching. Most of these events had no impact on electricity users with 13 resulting in loss of supply to customers.

Number of Loss of Supply Incidents

The chart shows the annual comparison of the number of Loss of Supply Incidents that occurred within the SP Transmission System.

SPT System – Number of incidents					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	4	2	0	4	6
Non-Incentivised	8	2	3	4	7

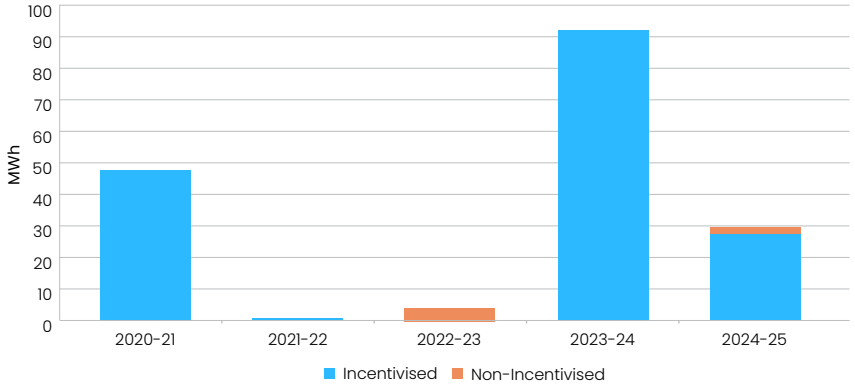


Total Estimated Unsupplied Energy

The total Estimated Unsupplied Energy from the SP Transmission System during 2024-25 was: **29.38 MWh**

The chart shows the annual comparison of the Estimated Unsupplied Energy for Loss of Supply Incidents that occurred within the SP Transmission System.

SPT System – Estimated Unsupplied Energy (MWh)					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	47.98	0.14	0.00	91.77	27.92
Non-Incentivised	0.00	0.00	3.81	0.00	1.46



Reliability of Supply

The Overall Reliability of Supply for the SP Transmission System during 2024-25 was: **99.999795%**

compared with 99.999382% in 2023-24 and 99.999975% in 2022-23.

Loss of Supply Incident Details

SPT Loss of Supply Incidents – Incentivised

Incident Date, Time and Location	MW Lost	Mins	MWh Unsupplied
07 June 2024 14:29 at Mossmorran - Dunfermline - Inverkeithing No.2 circuit tripped on main protection operation at Mossmorran, due to phase-to-phase fault close to Dunfermline. 47,764 customers affected and final customer restoration after 93 minutes.	39.56	94	25.43
06 July 2024 17:47 at Glenniston - Mossmorran - Redhouse Main protection operated at Redhouse & Mossmorran, due to outage on T1 Westfield / Mossmorran. No DAR as DLC was from Glenniston. 15,518 customers affected and final customer restoration after 127 minutes.	7.80	128	0.74
17 September 2024 12:13 at Glenlee - Glenluce - Newton Stewart Glenluce 33kV T2 transformer protection operated. Blue phase cable termination failed. Diff and LV REF operated. 1,079 customers affected and final customer restoration after 10 minutes.	0.55	10	0.09
23 November 2024 12:47 at Helensburgh - Sloy Circuit trip and DAR lockout. Supplies lost at Helensburgh GSP as T1 was already out of service 4,602 customers affected and final customer restoration after 11 minutes.	7.15	11	1.28
21 December 2024 22:00 at Kendoon - New Cumnock New Cumnock - Kendoon 132kV circuit trip and partial reclose. Lightning reported in the area at time of trip. Blue phase. DAR successful. Grid 2 at Kendoon required manual spring charging due to CB issue. 234 customers affected and final customer restoration after 9 minutes.	0.03	9	0.03
10 March 2025 23:26 at Dunbar Dunbar Grid 2A, opened prior to 33kV I/C being installed resulting in loss of customers. 10,274 customers affected and final customer restoration after 6 minutes.	4.50	7	0.35
Total			**27.92**

SPT Loss of Supply Incidents – Non-Incentivised

Incident Date, Time and Location	MW Lost	Mins	MWh Unsupplied
23 November 2024 13:36 at Dunoon - Sloy - Whistlefield - Windyhill No.2 Circuit trip, reclose and trip lockout. Loss of Whistlefield GSP as No1 circuit already tripped lockout at 13:25. 2 customers fed from Whistlefield, but due to No1 circuit tripping they were on their own generator, 0MW demand at time of fault, not incentivised.	0.00	213	0.00
02 January 2025 03:26 at Chapelcross - Dumfries Transient fault on the Chapelcross - Dumfries No1 circuit and successful auto reclose, following adverse weather. 1 customer affected and restored in under 1 minutes, not incentivised.	1.95	1	0.03
16 January 2025 16:08 at Cumberhead - Cumberhead Collector Circuit switched out due to main protection faulty 1 customers affected and final customer restoration after 451 minutes. 0MW demand at time of fault, not incentivised.	0.00	451	0.00
25 January 2025 13:55 at Arecleoch - Glenapp During Storm Eowyn Glenapp de-energised for safety due to 110V battery alarm urgent. 1 customers affected and final customer restoration after 1801 minutes. Net transfer of -0.85MW at time of fault, not incentivised.	-0.85	1801	0.00
24 January 2025 09:55 at Ayr - Coylton - Kilmarnock South - New Cumnock During Storm Eowyn, circuits 1 & 2 tripped simultaneously due to protection issue. 31,341 customers affected and restored in under 1 minute, not incentivised.	29.80	1	0.50
24 January 2025 13:16 at Lambhill - Port Dundas - West George St During Storm Eowyn, a transient fault at Port Dundas and successful auto-reclose, Port Dundas SGT2 already out on outage. 21,500 customers affected and restored in under 1 minute, not incentivised.	26.35	1	0.44
24 January 2025 10:06 at Ayr - Coylton - Kilmarnock South - New Cumnock During Storm Eowyn, circuits 1 & 2 tripped simultaneously due to protection issue. 31,341 customers affected and restored in under 1 minute, not incentivised.	29.80	1	0.50
Total			**1.46**

Scottish Hydro Electric Transmission System

System Description

The SHE Transmission system comprises of over 410km of 400kV,1732km of 275kV and 2744km of 132kV overhead line and approximately 1008km of AC high voltage underground transmission cables, interconnecting 163 substations. There are also two HVDC links with 427km of cable connecting Caithness to the Moray Coast and to Shetland. The system covers an area of approximately 55,000 square kilometres or 24% of the Great Britain land mass. It is connected to the SP Transmission system to the South and several large offshore Transmission Owners.

In 2024-25 the maximum recorded demand on the network was 1.24GW. Mostly the demand is taken by approximately 0.8 million customers connected to the Scottish Hydro Electric Power Distribution network via more than 13.88GVA of installed transformer capacity, with 2 other major customer also supplied directly from the SHE Transmission system. There are a growing number of large generators, with over 49 directly connected to the SHE Transmission system and many smaller units combining to produce more than 12.2GW capacity, of which 10.9GW is renewable.

The unreliability of supply figure can be distorted when compared against other systems at 275kV and 400kV due to the higher proportion of 132kV Transmission network and the consequent reduced power flows, however unreliability remains low in our network across all voltages.

The majority of these transmission assets form the main interconnected transmission system whilst the remaining radially supply the more remote areas of the territory including the outlying islands. Some connections, mainly in the more remote areas, can involve non-standard connection or running arrangements chosen by the customer and as such might experience greater risk of disruption, but on the whole reliability of the network has been very high.

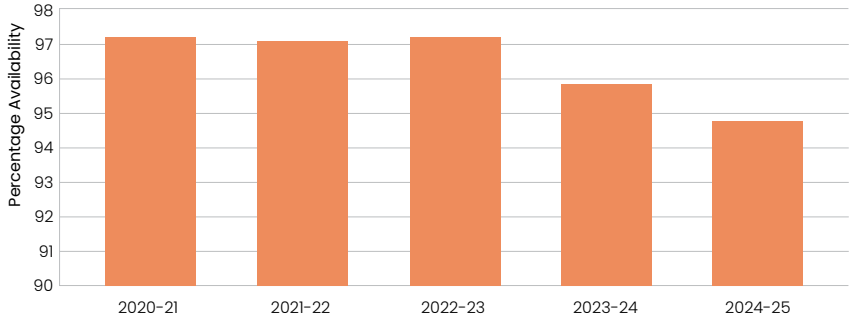
Availability

The definitions and criteria for system availability can be found in the Glossary of terms at the end of this report.

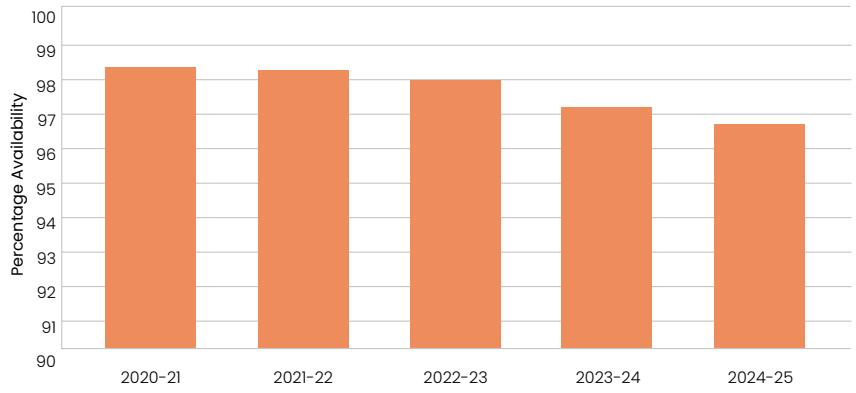
System performance is monitored by reporting variations in Annual System Availability, Winter Peak System Availability, Reactive Availability and Monthly System Availability. There is also a breakdown of Planned and Unplanned System Unavailability, along with Asset split of Unreliability.

SHE Transmission % Annual System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
97.17	97.07	97.19	95.82	94.89

% Annual System Availability

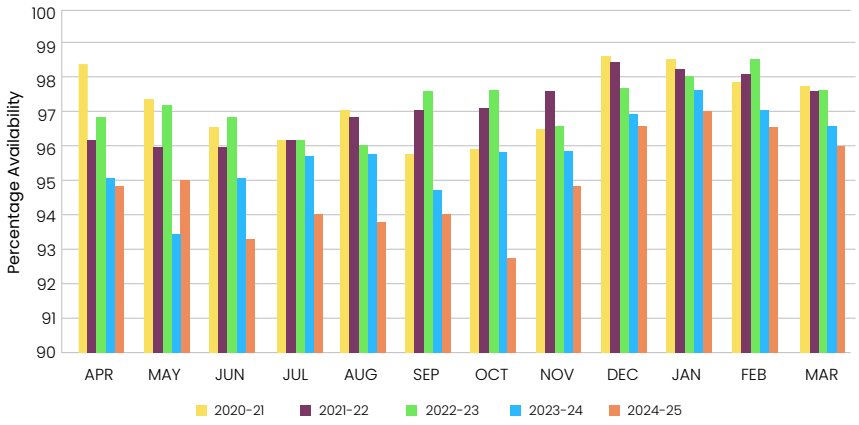


% Winter Peak System Availability



SHE Transmission % Winter Peak System Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
98.30	98.22	98.03	97.21	96.72

% Monthly System Availability

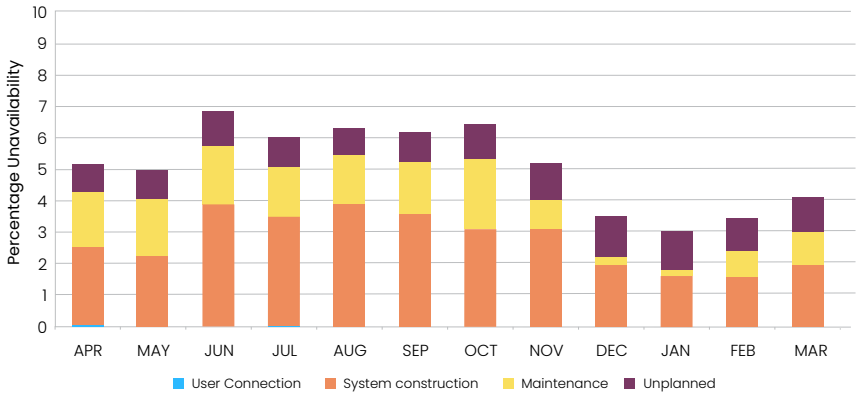


SHE Transmission % Monthly System Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	98.35	96.10	96.79	95.09	94.87
May	97.33	95.90	97.13	93.42	95.00
Jun	96.56	95.93	96.83	95.03	93.22
Jul	96.13	96.12	96.30	95.73	94.01
Aug	97.04	96.78	95.91	95.70	93.80
Sep	95.72	97.05	97.59	94.75	93.91
Oct	95.88	97.09	97.58	95.86	92.89
Nov	96.44	97.55	96.53	95.88	94.88
Dec	98.58	98.37	97.63	96.90	96.69
Jan	98.48	98.22	98.00	97.64	96.95
Feb	97.80	98.07	98.50	97.09	96.53
Mar	97.69	97.51	97.59	96.59	95.89

Monthly Planned and Unplanned System Unavailability

The table and the chart show the monthly variation in Planned and Unplanned System Unavailability.

Unavailability is defined as (100 – Availability) %



Planned and Unplanned Unavailability (%) for SHE Transmission System					
	User Connection	System Construction	Maintenance	Unplanned	Total
Apr	0.03	2.43	1.84	0.83	5.13
May	0.00	2.23	1.93	0.84	5.00
Jun	0.00	3.87	1.87	1.03	6.78
Jul	0.02	3.50	1.61	0.86	5.99
Aug	0.00	3.67	1.78	0.75	6.20
Sep	0.00	3.42	1.88	0.78	6.09
Oct	0.00	3.18	2.27	0.89	6.34
Nov	0.00	3.21	0.95	0.96	5.12
Dec	0.00	1.84	0.52	0.95	3.31
Jan	0.00	1.46	0.35	1.24	3.05
Feb	0.00	1.62	0.80	1.05	3.47
Mar	0.02	1.76	1.12	1.20	4.11

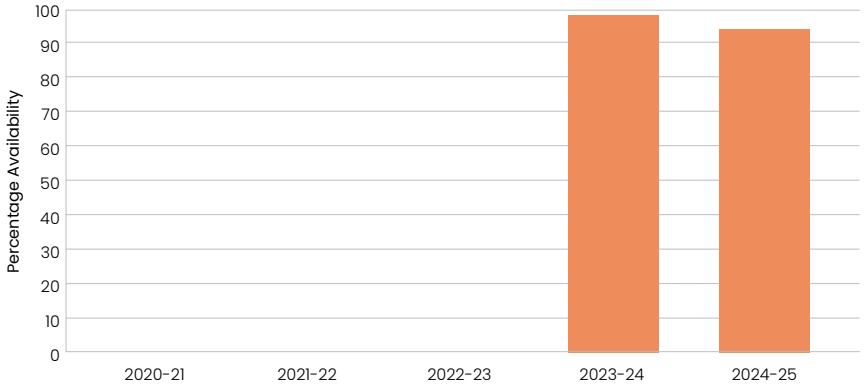
Reactive Compensation Equipment Availability

The definitions and criteria for Reactive Compensation Equipment Availability can be found in the Glossary of terms at the end of this report.

Reactive compensation equipment performance is monitored by reporting variations in Annual and Monthly Reactive Compensation Equipment Availability. There is also a breakdown of Planned and Unplanned Reactive Compensation Equipment Unavailability.

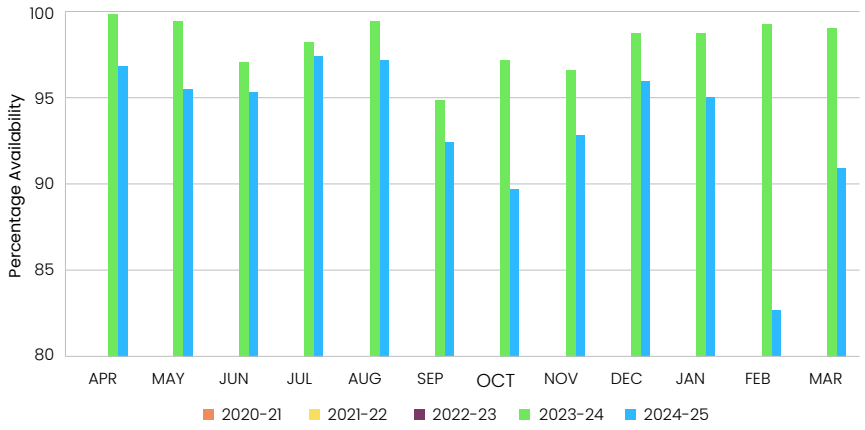
SHE Transmission % Annual Reactive Comp. Equipment Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
N/A	N/A	N/A	97.86	93.53

% Annual Reactive Comp. Equipment Availability



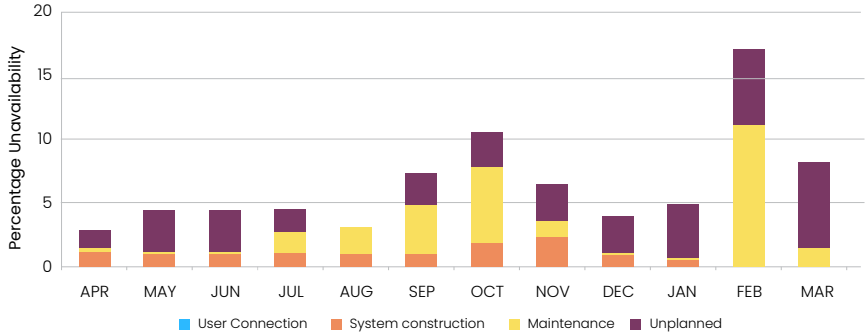
SHE Transmission % Monthly Reactive Comp. Equipment Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
Apr	N/A	N/A	N/A	99.66	97.16
May	N/A	N/A	N/A	98.57	95.71
Jun	N/A	N/A	N/A	97.39	95.64
Jul	N/A	N/A	N/A	96.46	95.51
Aug	N/A	N/A	N/A	98.53	97.05
Sep	N/A	N/A	N/A	94.87	92.73
Oct	N/A	N/A	N/A	97.36	89.34
Nov	N/A	N/A	N/A	96.68	93.53
Dec	N/A	N/A	N/A	98.57	96.08
Jan	N/A	N/A	N/A	98.70	95.12
Feb	N/A	N/A	N/A	98.87	82.72
Mar	N/A	N/A	N/A	98.64	91.79

% Monthly Reactive Comp. Equipment Availability



Planned and Unplanned Unavailability (%) for SHE Reactive Comp. Equipment					
	User Connection	System Construction	Maintenance	Unplanned	Total
Apr	0.00	1.05	0.40	1.39	2.84
May	0.00	1.05	0.10	3.15	4.29
Jun	0.00	1.05	0.18	3.14	4.36
Jul	0.00	1.05	1.67	1.77	4.49
Aug	0.00	1.05	1.90	0.00	2.95
Sep	0.00	0.88	3.93	2.47	7.27
Oct	0.00	1.78	5.96	2.92	10.66
Nov	0.00	2.21	1.34	2.92	6.47
Dec	0.00	0.88	0.12	2.92	3.92
Jan	0.00	0.44	0.47	3.96	4.88
Feb	0.00	0.00	11.11	6.17	17.28
Mar	0.00	0.00	1.41	6.80	8.21

Monthly Planned and Unplanned Reactive Comp. Equipment Unavailability



Security

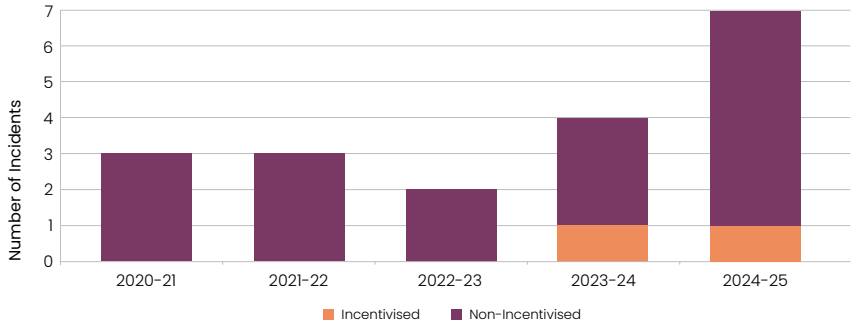
The definitions and criteria for system security can be found in the Glossary of terms at the end of this report.

System performance is monitored by the Estimated Unsupplied Energy from the SHE Transmission System for each incident.

During 2024-25 there were 98 SHE Transmission system events where transmission circuits were disconnected either automatically or by urgent manual switching. Most of these events had no impact on electricity users with 7 resulting in loss of supplies to customers.

Number of Loss of Supply Incidents

The chart shows the annual comparison of the number of Loss of Supply Incidents that occurred within the SHE Transmission System.

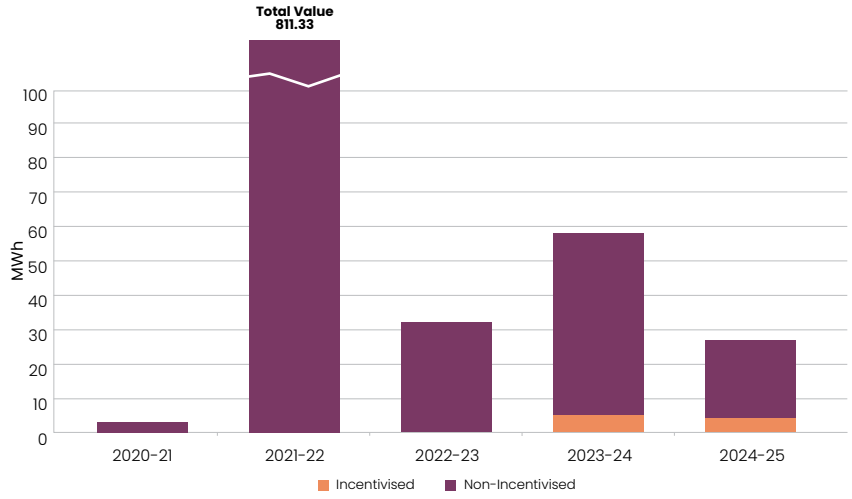


SHE Transmission System – Number of Incidents					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	0	0	0	1	1
Non-Incentivised	3	3	2	3	6

Total Estimated Unsupplied Energy

The total Estimated Unsupplied Energy from the SHE Transmission System during 2024-25 was: **33.44 MWh**

The chart shows the annual comparison of the Estimated Unsupplied Energy for Loss of Supply Incidents that occurred within the SHE Transmission System.



SHE Transmission System – Estimated Unsupplied Energy (MWh)					
	2020-21	2021-22	2022-23	2023-24	2024-25
Incentivised	0.00	0.00	0.00	5.31	4.73
Non-Incentivised	2.49	811.33	32.77	58.40	28.71

Reliability of Supply

The Overall Reliability of Supply for the SHE Transmission System during 2024-25 was: **99.999281%**

compared with 99.998518% in 2023-24 and 99.999218% in 2022-23.

Loss of Supply Incident Details

SHE Transmission Loss of Supply Incidents - Incentivised

Incident Date, Time and Location	MW Lost	Mins	MWh Unsupplied
23 November 2024 - Dunoon 132kV Grid Transformer 2 Tripped due to ice loading on over headlines while at single circuit risk from fault on GT1. Demand restored by DNO.	12.9	35	4.73
Total			**4.73**

SHE Transmission Loss of Supply Incidents – Non-Incentivised

Incident Date, Time and Location	MW Lost	Mins	MWh Unsupplied
16 June 2024 - Fetteresso Super Grid Transformer 1 Tripped due to a transformer failure. Demand restored by DNO.	9	871	0.00
04 October 2024 - Fort Augustus - Quich - Broadford - Edinbane - Dunvegan - Ardmore - Harris - Stornoway 132kV circuit Tripped due to a tension insulator failure. Demand was restored by DNO and island generation.	89.4	2551	28.71
24 January 2025 - Inveraray - Taynuilt 132kV circuit Tripped due to storm Eowyn causing double circuit failure to the overhead line and damaging the insulators and conductors. Demand restored by DNO.	10.8	2557	0.00
24 January 2025 - Killin - St Fillans 132kV circuit Tripped due to storm Eowyn and failure of circuit breaker. Demand was restored by DNO..	0.3	26	0.00
24 January 2025 - Killin - St Fillans 132kV circuit Tripped due to storm Eowyn and failure of circuit breaker. Demand was restored by DNO.	0.3	45	0.00
21 March 2025 - Knocknagael Dallas - Blackhillock & Blackhillock - Berryburn - Knocknagael 132kV circuits. Switched out of service due wildfires in proximity to overhead lines.	52.6	151 & 114	0.00
Total			**28.71**

Interconnectors
IFA1

System Description

The NGET transmission system is interconnected with France between Sellindge and Les Mandarins via a 70km HVDC link owned and operated jointly by National Grid Ventures and Réseau de Transport d'Electricité (RTE), the French transmission system owner, since 1986.

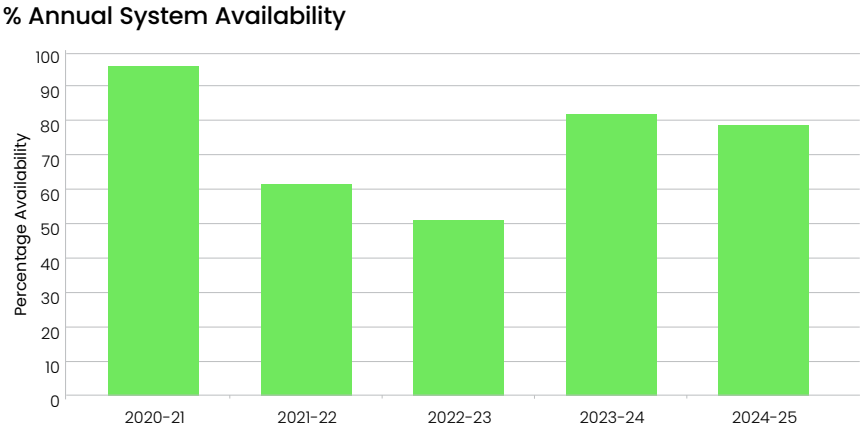
The interconnector is called IFA1 and is a dual bipole design with a total capability of 2000MW.

Annual Availability

Annual Availability of IFA1: **78.92%**

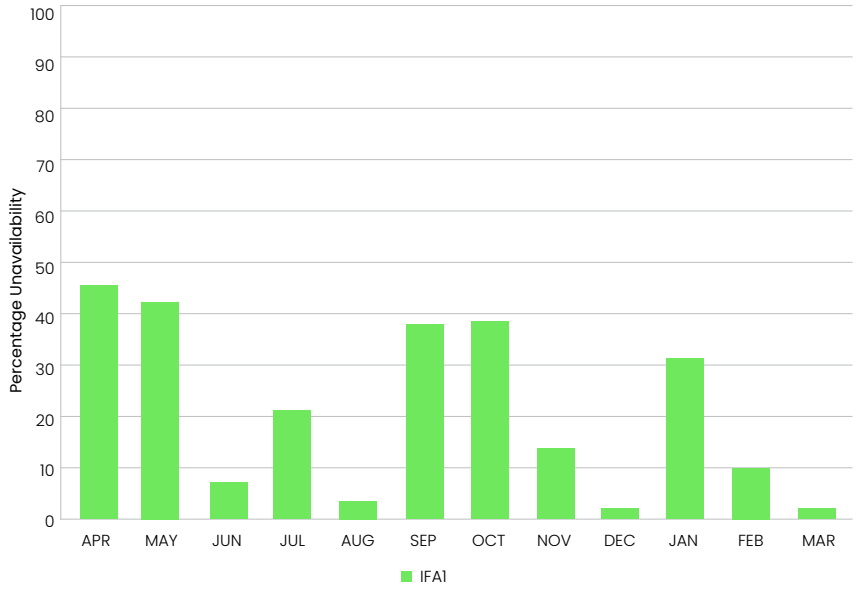
The chart below shows the annual comparison of availability of IFA1.

IFA1 % Annual Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
95.4	61.22	51.73	81.95	78.92



Monthly Unavailability

% IFA1 Monthly Unavailability

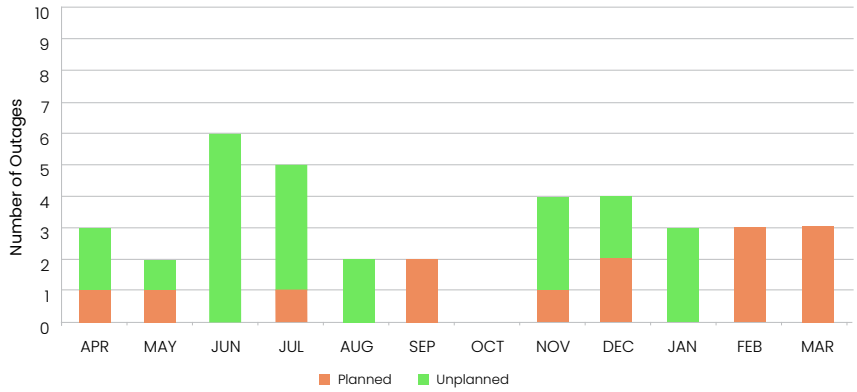


IFA1 % Monthly Unavailability	
	IFA
April	44.90
May	42.32
June	7.89
July	20.98
August	2.71
September	37.81
October	38.37
November	13.74
December	1.38
January	31.00
February	9.67
March	1.67
Average	21.08

Outages (April - March)

The chart refers to Planned and Unplanned Outages. In this context Planned are notified prior to Day Ahead and Unplanned are notified at Day Ahead or within the Contract Day.

The chart below shows the number of Interconnector Planned and Unplanned Outages on a per month basis.



IFA1 Planned and Unplanned Outages		
	Planned	Unplanned
April	1	2
May	1	1
June	0	6
July	1	4
August	0	2
September	2	0
October	0	0
November	1	3
December	2	2
January	0	3
February	2	0
March	2	0
Total	12	23

BritNed

System Description

The NGET transmission system is interconnected with The Netherlands between Isle of Grain and Maasvlakte, via a 260km subsea cable owned and operated by BritNed Development Limited ("BritNed") since 2011.

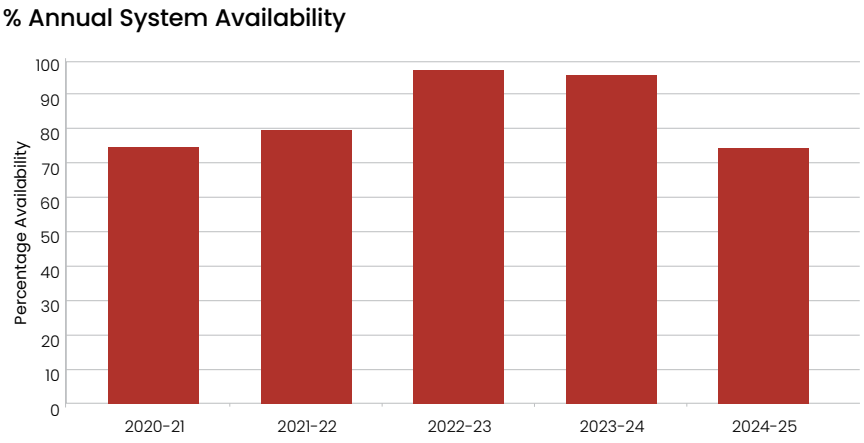
The total capability of BritNed is 1000MW and is made up of two 'poles', 500MW each.

Annual Availability

Annual Availability of BritNed: **74.32%**

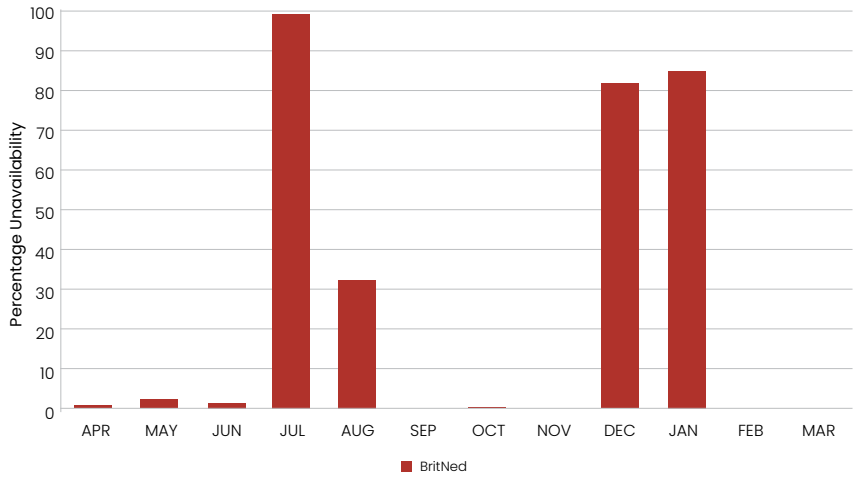
The chart below shows the availability of BritNed.

BritNed % Annual Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
74.48	79.91	97.25	96.29	74.32



Monthly Unavailability

% BritNed Monthly Unavailability

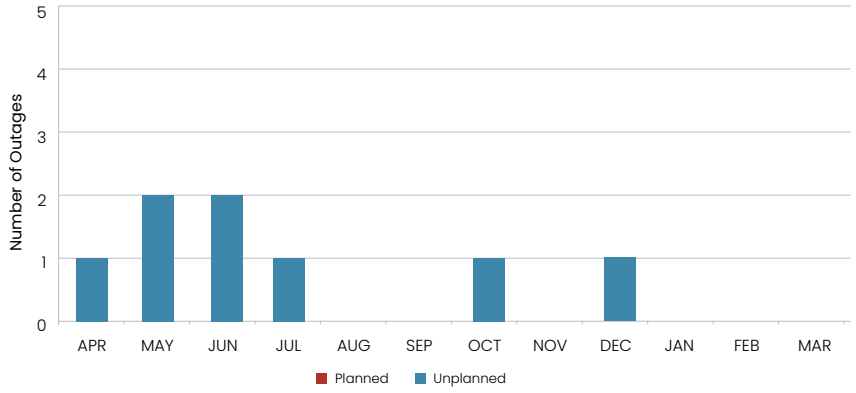


BritNed % Monthly Unavailability	
	BritNed
April	0.97
May	2.59
June	1.53
July	99.19
August	31.18
September	0.00
October	0.02
November	0.00
December	81.18
January	85.74
February	0.00
March	0.00
Average	25.68

Outages (April - March)

The chart refers to Planned and Unplanned Outages. In this context Planned are notified prior to Day Ahead and Unplanned are notified at Day Ahead or within the Contract Day.

The chart below shows the number of Interconnector Planned and Unplanned Outages on a per month basis.



BritNed Planned and Unplanned Outages		
	Planned	Unplanned
April	0	1
May	0	2
June	0	2
July	0	1
August	0	0
September	0	0
October	0	1
November	0	0
December	0	1
January	0	0
February	0	0
March	0	0
Total	0	8

NEMO Link

System Description

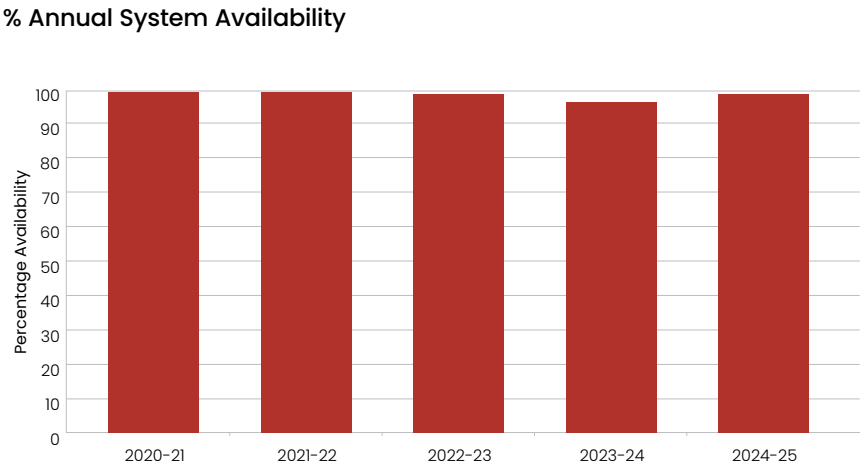
The NGET transmission system is interconnected with Belgium between Richborough and Zeebrugge, via a 140km subsea cable owned and operated by Nemo Link Limited (NEMO Link) since January 2019. The total capability of the link is 1000MW and is a single 1000MW monopole design.

Annual Availability

Annual Availability of NEMO Link: **98.76%**

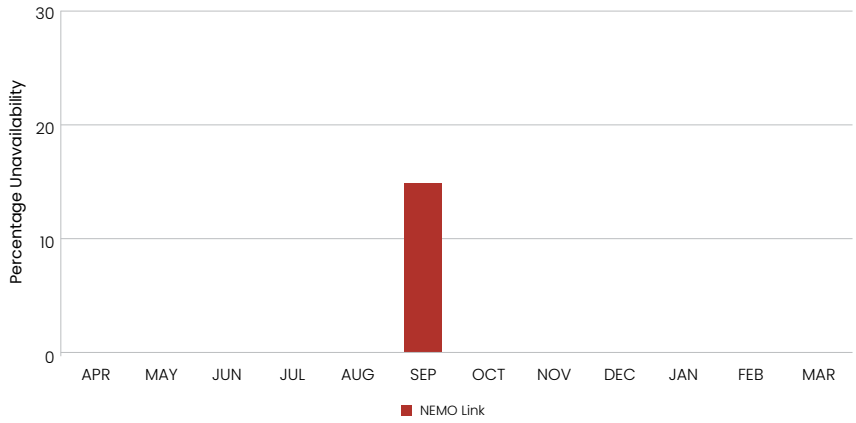
The chart below shows the availability of NEMO Link.

NEMO Link % Annual Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
99.22	99.00	98.09	96.78	98.76



Monthly Unavailability

% NEMO Link Monthly Unavailability

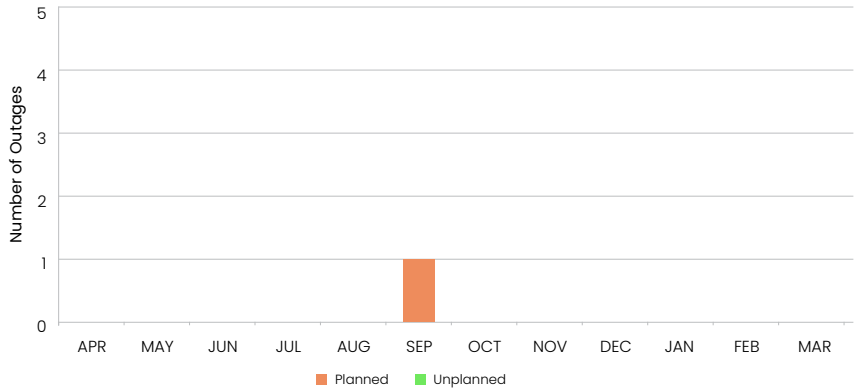


NEMO Link % Monthly Unavailability	
	Nemo Link
April	0.00
May	0.00
June	0.00
July	0.00
August	0.00
September	15.14
October	0.00
November	0.00
December	0.00
January	0.00
February	0.00
March	0.00
Average	1.24

Outages (April - March)

The chart refers to Planned and Unplanned Outages. In this context Planned are notified prior to Day Ahead and Unplanned are notified at Day Ahead or within the Contract Day.

The chart below shows the number of Interconnector Planned and Unplanned Outages on a per month basis.



NEMO Link Planned and Unplanned Outages		
	Planned	Unplanned
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	1	0
October	0	0
November	0	0
December	0	0
January	0	0
February	0	0
March	0	0
Total	1	0

IFA2

System Description

The NGET transmission system is interconnected with France between Chilling Substation and Tourbe via a 240km HVDC link owned and operated jointly by National Grid Ventures and Réseau de Transport d'Electricité (RTE), the French transmission system owner, since January 2021.

The interconnector is called IFA2 and is a monopole design with a total capability of 1000MW.

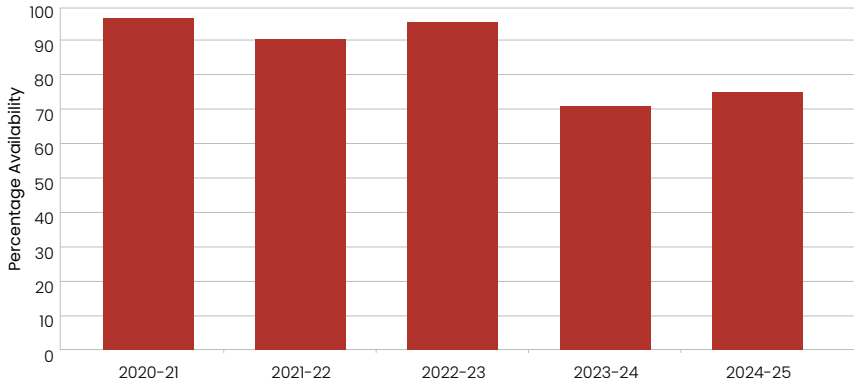
Annual Availability

Annual Availability of IFA2: **74.87%**

The chart below shows the annual comparison of availability of IFA2.

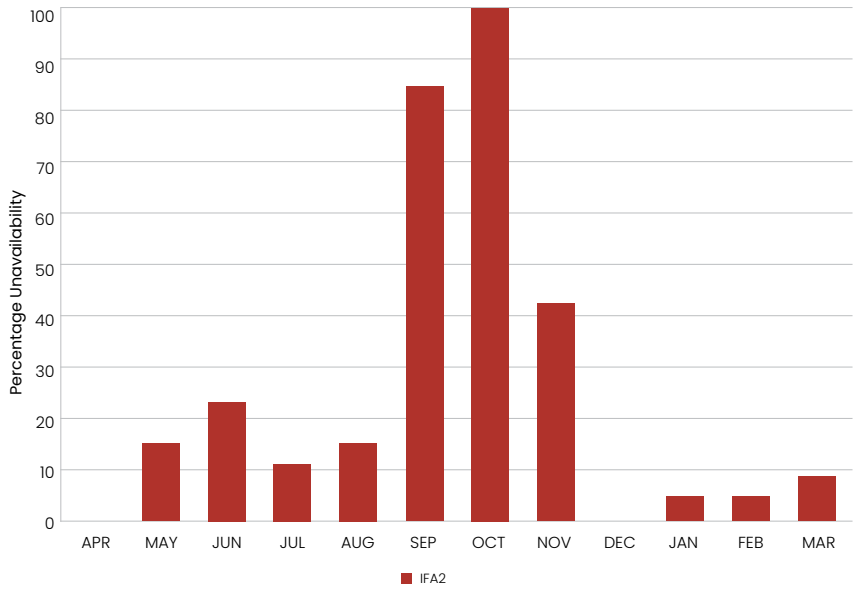
IFA2 % Annual Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
96.55	90.34	95.68	71.07	74.87

% Annual System Availability



Monthly Unavailability

% IFA2 Monthly Unavailability

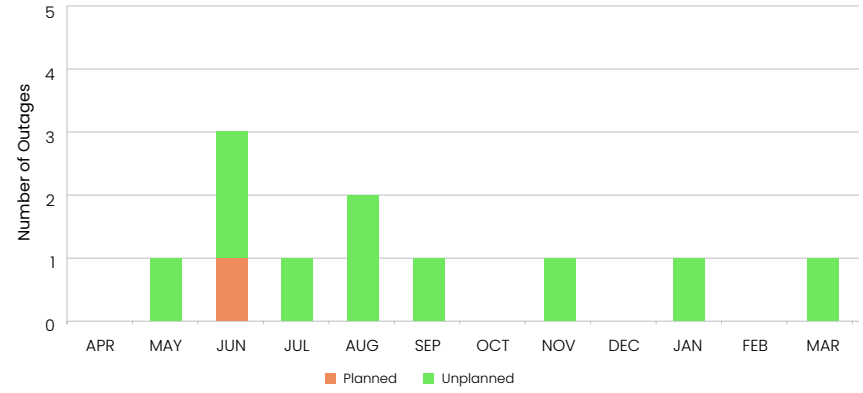


IFA2 % Monthly Unavailability	
	IFA2
April	0.00
May	7.05
June	23.13
July	10.85
August	14.90
September	85.01
October	100.00
November	41.63
December	0.00
January	5.24
February	5.20
March	8.24
Average	25.13

Outages (April - March)

The chart refers to Planned and Unplanned Outages. In this context Planned are notified prior to Day Ahead and Unplanned are notified at Day Ahead or within the Contract Day.

The chart below shows the number of Interconnector Planned and Unplanned Outages on a per month basis.



IFA2 Planned and Unplanned Outages		
	Planned	Unplanned
April	0	0
May	0	1
June	1	2
July	0	1
August	0	2
September	0	1
October	0	0
November	0	1
December	0	0
January	0	1
February	0	0
March	0	1
Total	1	10

North Sea Link (NSL)

System Description

The NGET transmission system is interconnected with Norway between Blyth (Northumberland) and Kvilldal (Rogland) via a 720km HVDC link owned and operated jointly by National Grid Ventures and Statnett, the Norwegian transmission system owner, since October 2021.

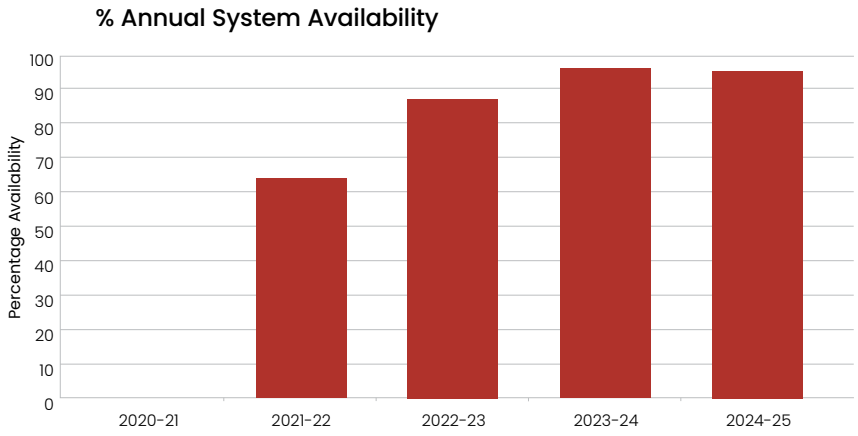
The interconnector is called North Sea Link and is a bipole design with a total capacity of 1400MW.

Annual Availability

Annual Availability of North Sea Link: **94.96%**

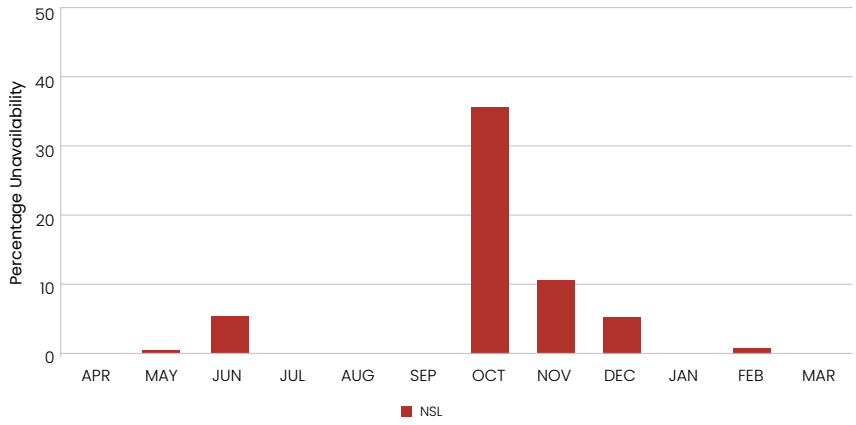
The chart below shows the annual comparison of availability of North Sea Link.

North Sea Link % Annual Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
N/A	63.61	86.67	95.92	94.96



Monthly Unavailability

% North Sea Link Monthly Unavailability

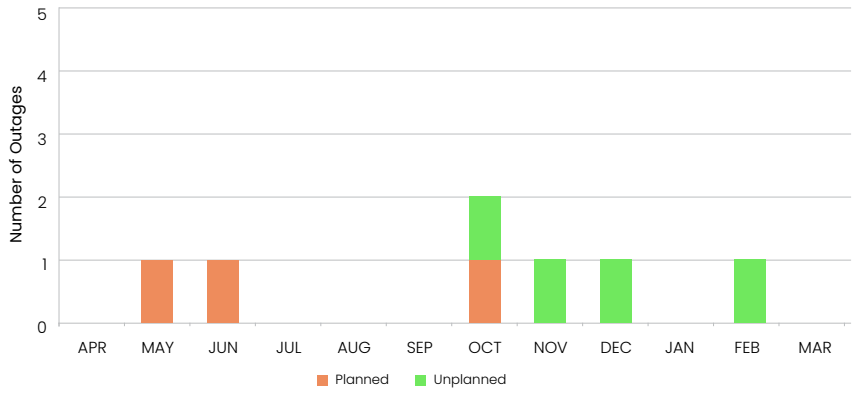


North Sea Link % Monthly Unavailability	
	NSL
April	0.00
May	0.81
June	5.65
July	0.00
August	0.00
September	0.00
October	36.42
November	10.13
December	6.31
January	0.00
February	0.66
March	0.00
Average	5.04

Outages (April - March)

The chart refers to Planned and Unplanned Outages. In this context Planned are notified prior to Day Ahead and Unplanned are notified at Day Ahead or within the Contract Day.

The chart below shows the number of Interconnector Planned and Unplanned Outages on a per month basis.



North Sea Link Planned and Unplanned Outages		
	Planned	Unplanned
April	0	0
May	1	0
June	1	0
July	0	0
August	0	0
September	0	0
October	1	1
November	0	1
December	0	1
January	0	0
February	0	1
March	0	0
Total	3	4

Viking Link

System Description

The NGET transmission system is interconnected with Denmark between Bicker Fen (Lincolnshire) and Revsing (Jutland) via a 765km HVDC link owned and operated jointly by National Grid Ventures and Energinet, the Danish transmission system owner, since December 2023.

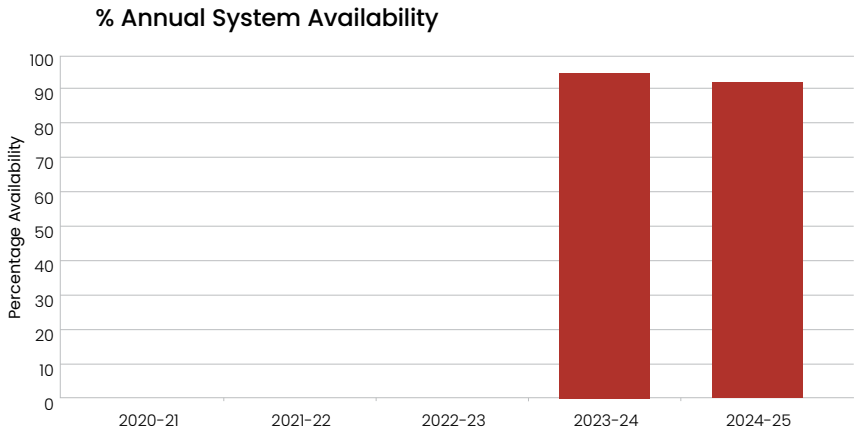
The interconnector is called Viking Link and is a bipole design with a total capacity of 1400MW.

Annual Availability

Annual Availability of Viking Link: **91.75%**

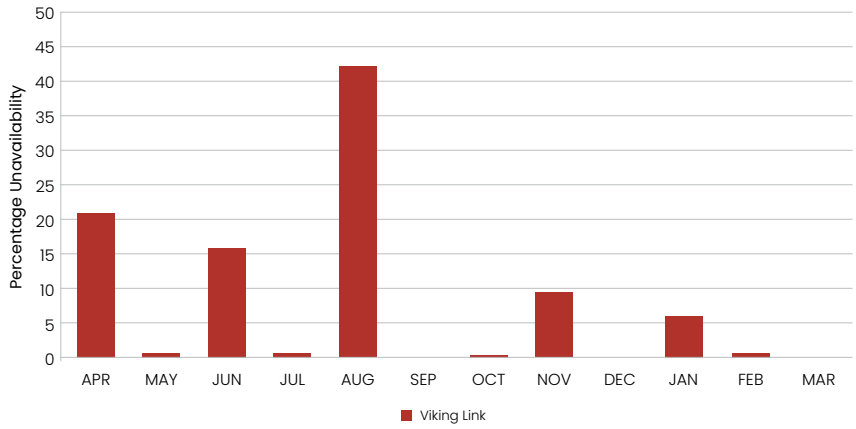
The chart below shows the annual comparison of availability of Viking Link.

Viking Link % Annual Availability				
2020-21	2021-22	2022-23	2023-24	2024-25
N/A	N/A	N/A	95.09	91.75



Monthly Unavailability

% Viking Link Monthly Unavailability

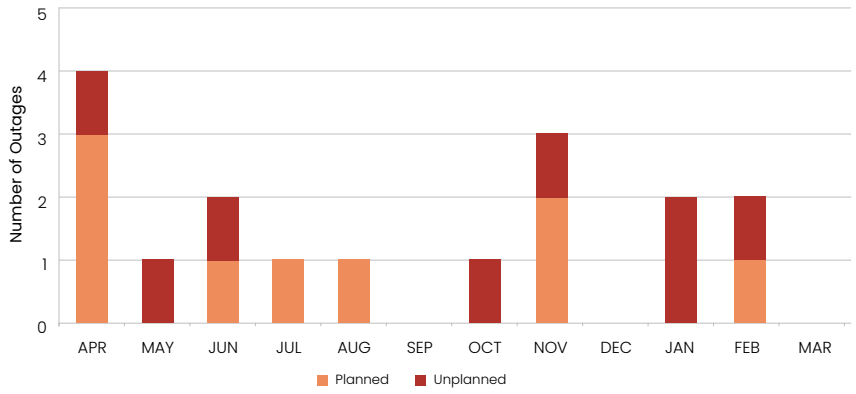


Viking Link % Monthly Unavailability	
	VKL
April	21.15
May	0.46
June	16.03
July	0.97
August	42.97
September	0.00
October	0.82
November	9.13
December	0.00
January	6.28
February	0.96
March	0.00
Average	8.25

Outages (April - March)

The chart refers to Planned and Unplanned Outages. In this context Planned are notified prior to Day Ahead and Unplanned are notified at Day Ahead or within the Contract Day.

The chart below shows the number of Interconnector Planned and Unplanned Outages on a per month basis.



Viking Link Planned and Unplanned Outages		
	Planned	Unplanned
April	3	1
May	0	1
June	1	1
July	1	0
August	1	0
September	0	0
October	0	1
November	2	1
December	0	0
January	2	0
February	1	1
March	0	0
Total	11	6

Offshore Systems

System Description

The following section contains details of the currently connected offshore networks; Robin Rigg OFTO (TC), Gunfleet Sands OFTO (TC), Barrow OFTO (TC), Ormonde OFTO (TC), Lincs OFTO (TC), Westermost Rough OFTO (TC), Dudgeon OFTO (TC), Beatrice OFTO (TC), Rampion OFTO (TC), East Anglia 1 OFTO (TC), Moray East (TC), Walney 1 OFTO (BT), Walney 2 OFTO (BT), Sheringham Shoal OFTO (BT), London Array OFTO (BT), Greater Gabbard OFTO (EQ),Triton Knoll OFTO (EQ), Seagreen Phase 1 OFTO Project(EQ), Gwynt-Y-Mor OFTO (BBEC), Thanet OFTO (BBEC), Humber Gateway OFTO (BBEC), West of Duddon Sands OFTO (WoDS), Burbo Bank Extension OFTO (DTP), Race Bank OFTO (DTP), Galloper OFTO (DTP), Walney Extension OFTO (DTP), Hornsea One OFTO (DTP) and Hornsea Two OFTO (DTP). The offshore network consists of 3,881 kilometres of circuit, connecting to 28 offshore substations totalling about 13.5GW of generating capacity.

Offshore Transmission Networks

Offshore Transmission Networks

	Go Live	Number of Circuits	Circuit Length km	Generating Capacity MW	Connection Voltage	Interfacing Party
TC Robin Rigg	02/03/2011	2	28.8	178	132kV	DNO
TC Gunfleet Sands	19/07/2011	1	12.76	163.9	132kV	DNO
TC Barrow	27/09/2011	1	30.1	90	132kV	DNO
TC Ormonde	10/07/2012	1	44.3	150	132kV	DNO
TC Lincs	11/11/2014	2	122.6	265	400kV	Transmission
TC Westermost Rough	11/02/2016	1	26.16	206.5	275kV	Transmission
TC Dudgeon	13/11/2018	2	178	400	400kV	Transmission
TC Beatrice	04/08/2021	2	181	588	400kV	Transmission
TC Rampion	17/11/2021	2	86	400	400kV	Transmission
TC East Anglia 1	22/12/2022	2	246	680	400kV	Transmission
TC Moray East	22/02/2024	3	280	900	400kV	Transmission
BT Walney 1	31/10/2011	1	48	182	132kV	Transmission
BT Walney 2	04/10/2012	1	49	182	132kV	DNO
BT Sheringham Shoal	05/07/2013	2	88	315	132kV	DNO
BT London Array	18/09/2013	4	216	630	400kV	Transmission
EQ Greater Gabbard	29/11/2013	3	135	500	132kV	Transmission
EQ Triton Knoll	05/12/2023	2	218	824	400kV	Transmission
EQ Seagreen Phase 1	21/03/2025	3	84	1075	275kV	Transmission
BBEC Gwynt Y Mor	17/02/2015	4	126.8	576	400kV	Transmission
BBEC Thanet	17/12/2014	2	58.8	300	132kV	DNO
BBEC Humber Gateway	15/09/2016	2	78	219	275kV	Transmission
West of Duddon Sands	25/08/2015	2	84.6	382	400kV	Transmission
DTP Burbo Bank Extension	27/04/2018	1	35.3	258	400kV	Transmission
DTP Race Bank	10/11/2019	2	164.7	573	400kV	Transmission
DTP Galloper	27/02/2020	2	88.3	353	132kV	Transmission
DTP Walney Extension	04/06/2020	2	139	659	400kV	Transmission
DTP Hornsea One	12/03/2021	2	533	1134	400kV	Transmission
DTP Hornsea Two	20/07/2023	2	498.6	1320	400kV	Transmission

TC: Transmission Capital BT: Blue Transmission Investments Limited EQ: Equitix
BBEC: Balfour Beatty & Equitix Consortium DTP: Diamond Transmission Partners

Availability

Offshore Transmission Systems are radial and only connect offshore generation to the wider NETS. The regulatory incentivisation of OFTO performance is different to that of onshore TOs and is based on their system availability rather than loss of supply. The OFTOs provide information for outages that originate on their system or outages that have impacted their system, for example, a generator, DNO or TO system. The system availability performance for each OFTO is then calculated after categorising the outages as either OFTO or Non-OFTO.

System performance is monitored by reporting variations in Annual System Availability, Winter Peak System Availability and Monthly System Availability. There is also a breakdown of Planned and Unplanned System Unavailability. The Annual System Availability of Offshore Networks for 2024-25 was **98.20%**

% Annual System Availability

Offshore Transmission Networks % Annual System Availability

	2020-21	2021-22	2022-23	2023-24	2024-25
TC Robin Rigg	99.95	100	100	100	99.98
TC Gunfleet Sands	99.66	100	100	100	100
TC Barrow	100	100	100	100	99.62
TC Ormonde	100	99.93	99.38	100	100
TC Lincs	99.71*	99.98	99.99*	100	99.74
TC Westermost Rough	100	99.93	100	100	100
TC Dudgeon	99.83	99.92	99.95	98.74	99.93
TC Beatrice	N/A	99.16	99.32	96.99	98.13
TC Rampion	N/A	100	99.56	100	99.87
TC East Anglia 1	N/A	N/A	100	94.99	100
TC Moray East	N/A	N/A	N/A	100	100
BT Walney 1	100	98.90	100	99.67	99.76
BT Walney 2	100	100	100	100	99.94
BT Sheringham Shoal	100	99.69	99.61	100	98.43
BT London Array	99.77	99.82	99.92	99.84	100
EQ Greater Gabbard	99.78	99.98	94.74	99.58	98.99
EQ Triton Knoll	N/A	N/A	N/A	100	94.45
EQ Seagreen Phase 1	N/A	N/A	N/A	N/A	100
BBEC Gwynt Y Mor	99.95*	99.56*	99.90	91.10	96.23
BBEC Thanet	99.84	100	99.72	100	100
BBEC Humber Gateway	99.76	98.73	99.72	99.34	100
West of Duddon Sands	99.50	99.19	99.09	97.59	99.78
DTP Burbo Bank Extension	99.99	100	100	100	100
DTP Race Bank	99.26	100	99.93	94.72	98.51
DTP Galloper	99.95	100	99.97	100	100
DTP Walney Extension	99.97	100	100	100	99.66
DTP Hornsea One	100	99.93	99.57	95.30	93.31
DTP Hornsea Two	N/A	N/A	N/A	95.34	95.08

* Figure has been updated as an exceptional event with agreement from Ofgem.

% Winter Peak System Availability

Offshore Transmission Networks % Winter Peak System Availability					
	2020-21	2021-22	2022-23	2023-24	2024-25
TC Robin Rigg	100	100	100	100	100
TC Gunfleet Sands	100	100	100	100	100
TC Barrow	100	100	100	100	100
TC Ormonde	100	100	100	100	100
TC Lincs	100	100	100	100	100
TC Westermost Rough	100	100	100	100	100
TC Dudgeon	100	99.88	100	100	100
TC Beatrice	N/A	100	100	100	100
TC Rampion	N/A	100	100	100	100
TC East Anglia 1	N/A	N/A	100	99.85	100
TC Moray East	N/A	N/A	N/A	100	100
BT Walney 1	100	99.07	100	99.34	100
BT Walney 2	100	100	100	100	100
BT Sheringham Shoal	100	100	100	100	99.91
BT London Array	100	99.64	100	100	100
EQ Greater Gabbard	100	100	90.50	100	100
EQ Triton Knoll	N/A	N/A	N/A	100	82.00
EQ Seagreen Phase 1	N/A	N/A	N/A	N/A	N/A
BBEC Gwynt Y Mor	72.84	99.82*	99.90	78.35	88.91
BBEC Thanet	100	100	99.51	100	100
BBEC Humber Gateway	100	99.17	99.41	100	100
West of Duddon Sands	100	100	100	99.80	100
DTP Burbo Bank Extension	100	100	100	100	100
DTP Race Bank	100	100	100	92.42	100
DTP Galloper	100	100	100	100	100
DTP Walney Extension	99.91	100	100	100	100
DTP Hornsea One	100	99.92	100	85.62	100
DTP Hornsea Two	N/A	N/A	N/A	85.62	99.30

* Figure has been updated as an exceptional event with agreement from Ofgem

% Monthly System Availability

Offshore Transmission Networks % Monthly System Availability

	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
TC Robin Rigg	100	100	100	100	100	100	99.78	100	100	100	100	100
TC Gunfleet Sands	100	100	100	100	100	100	100	100	100	100	100	100
TC Barrow	100	100	100	100	100	100	100	95.41	100	100	100	100
TC Ormonde	100	100	100	100	100	100	100	100	100	100	100	100
TC Lincs	100	99.80	100	100	97.12	100	100	100	100	100	100	100
TC Westermost Rough	100	100	100	100	100	100	100	100	100	100	100	100
TC Dudgeon	100	99.15	100	100	100	100	100	100	100	100	100	100
TC Beatrice	77.19	100	100	100	100	100	100	100	100	100	100	100
TC Rampion	100	100	100	100	98.52	100	100	100	100	100	100	100
TC East Anglia 1	100	100	100	100	100	100	100	100	100	100	100	100
TC Moray East	100	100	100	100	100	100	100	100	100	100	100	100
BT Walney 1	100	100	100	100	100	100	98.26	98.82	100	100	100	100
BT Walney 2	100	100	100	100	100	100	99.27	100	100	100	100	100
BT Sheringham Shoal	100	100	100	87.24	100	100	100	94.35	100	99.73	100	100
BT London Array	100	100	100	100	100	100	100	100	100	100	100	100
EQ Greater Gabbard	100	100	100	100	95.12	92.76	100	100	100	100	100	100
EQ Triton Knoll	100	87.43	100	100	100	100	100	100	94.54	59.39	92.07	100
EQ Seagreen Phase 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100
BBEC Gwynt Y Mor	100	100	100	100	100	99.80	100	100	90.34	88.19	88.19	88.19
BBEC Thanet	100	100	100	100	100	100	100	100	100	100	100	100
BBEC Humber Gateway	100	100	100	100	100	100	100	100	100	100	100	100
West of Duddon Sands	99.62	100	100	99.49	100	99.42	100	100	100	100	100	98.82
DTP Burbo Bank Extension	100	100	100	100	100	100	100	100	100	100	100	100
DTP Race Bank	85.06	100	100	100	98.52	98.56	100	100	100	100	100	100
DTP Galloper	100	100	100	100	100	100	100	100	100	100	100	100
DTP Walney Extension	100	97.64	100	100	100	100	100	100	100	100	100	98.28
DTP Hornsea One	75.64	55.51	97.96	100	100	90.60	100	100	100	100	100	100
DTP Hornsea Two	88.64	91.84	80.11	99.96	100	82.49	100	100	100	100	97.91	100

% Monthly Planned and Unplanned Unavailability

The table shows the % monthly variation in Planned and Unplanned System Unavailability for the Offshore Transmission Networks. The unavailability has been classified by network responsibility i.e. OFTO or Non-OFTO (e.g. Generator).

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
TC Robin Rigg	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0.22	0	0	0	0	0
	Non-OFTO	0	0	2.29	2.59	0	0.78	1.76	3.13	0	33.28	0	6.28
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Gunfleet Sands	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Barrow	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	4.59	0	0	0	0	0
	Non-OFTO	0	0	0	0	0.51	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Ormonde	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0.28	0.64	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Lincs	**OFTO Planned**	0	0	0	0	2.88	0	0	0	0	0	0	0
	OFTO Unplanned	0	0.20	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Westermost Rough	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Dudgeon	**OFTO Planned**	0	0.85	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Beatrice	**OFTO Planned**	22.81	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0.63	0	0	37.72	14.25	0	0	0	0	0	0	21.46
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Rampion	**OFTO Planned**	0	0	0	0	1.48	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC East Anglia 1	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	43.94	50.00	50.00	50.00	50.00	50.00	20.29	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
TC Moray East	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	1.50	0	0	0	0	0	0	0	0	0	0	0.47
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
BT Walney 1	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	1.74	1.18	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
BT Walney 2	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0.73	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
BT Sheringham Shoal	**OFTO Planned**	0	0	0	12.76	0	0	0	0	0	0.27	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	5.65	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0.04	0

% Monthly Planned and Unplanned Unavailability

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
BT London Array	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
EQ Greater Gabbard	**OFTO Planned**	0	0	0	0	4.88	7.24	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
EQ Triton Knoll	**OFTO Planned**	0	12.57	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	5.46	40.61	7.93	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
EQ Seagreen Phase 1	**OFTO Planned**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	OFTO Unplanned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	Non-OFTO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.64
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
BBEC Gwynt Y Mor	**OFTO Planned**	0	0	0	0	0	0	0	0	9.66	0	0	0
	OFTO Unplanned	0	0	0	0	0	0.20	0	0	0	11.81	11.81	11.81
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
BBEC Thanet	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
BBEC Humber Gateway	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
West of Duddon Sands	**OFTO Planned**	0.38	0	0	0	0	0.58	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0.51	0	0	0	0	0	0	0	1.18
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
DTP Burbo Bank Extension	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
DTP Race Bank	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	14.94	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	1.48	1.44	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
DTP Galloper	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	0	0	0	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
DTP Walney Extension	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	0	2.36	0	0	0	0	0	0	0	0	0	1.72
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
DTP Hornsea One	**OFTO Planned**	0	0	0	0	0	0	0	0	0	0	0	0
	OFTO Unplanned	24.36	44.49	2.04	0	0	8.06	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	1.33	0	0	0	0	0	0
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
DTP Hornsea Two	**OFTO Planned**	0	0	0	0	0	17.51	0	0	0	0	2.09	0
	OFTO Unplanned	11.36	8.16	19.89	0.04	0	0	0	0	0	0	0	0
	Non-OFTO	0	0	0	0	0	0	0	0	0	0	0	0

Outage Details

Offshore system outages are calculated using MW of offshore transmission capacity unavailable, not generation lost.

TC Robin Rigg

Outage Date and Time	Reason	Days, Hours and Mins	MWh
17 June 2024 08:55 Generator maintenance offshore.	Non-OFTO	1d 10h 06m	2932.60
11 July 2024 07:01 Generator maintenance offshore.	Non-OFTO	1d 13h 20m	3434.67
04 September 2024 08:04 ENWL outage request to break OHL jumpers on Seaton West at start of works. 06015N2024	Non-OFTO	0d 05h 48m	533.75
09 September 2024 08:04 ENWL outage request to break OHL jumpers on Seaton East at start of works. 04598N2024	Non-OFTO	0d 05h 26m	467.13
14 October 2024 11:08 ENWL outage request to make OHL jumpers on Seaton East at end of works. 04598N2024	Non-OFTO	0d 05h 04m	435.60
15 October 2024 22:19 Circuit trip due to burnt phase contact on ENW owned DS 103 at Seaton.	Non-OFTO	0d 22h 01m	1893.45
21 October 2024 14:33 Circuit Trip due to onshore 132/33kv transformer SW/TR/121 Main Protection operation for Diff & LVREF.	OFTO	0d 03h 10m	291.42
12 November 2024 07:19 ENW outage to conduct essential maintenance on the 132kV system.	Non-OFTO	0d 09h 01m	775.44
13 November 2024 05:54 ENW outage to conduct essential maintenance on the 132kV system.	Non-OFTO	0d 10h 12m	877.21
14 November 2024 06:11 ENW outage to conduct essential maintenance on the 132kV network.	Non-OFTO	0d 13h 57m	1199.71
15 November 2024 06:36 ENW outage for essential 132kV maintenance - ON 07774N2024.	Non-OFTO	0d 13h 27m	1156.71
01 January 2025 17:09 Robin Rigg West circuit trip due to offshore transformer differential trip. Outage due to fault on generator owned 33kV GIS.	Non-OFTO	19d 23h 03m	44072.26
17 March 2025 09:21 ENW outage for essential 132kV maintenance.	Non-OFTO	2d 10h 24m	5372.76
20 March 2025 07:23 ENW requested outage to complete protection maintenance on 132kV network.	Non-OFTO	1d 08h 02m	2947.04
Total			**66,389.75**

TC Gunfleet Sands

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

TC Barrow

Outage Date and Time	Reason	Days, Hours and Mins	MWh
12 August 2024 08:37 ENW requested outage on BOW for HEYSH/TRIMP1 tap-change control scheme replacement. START of outage.	Non-OFTO	0d 00h 51m	76.50
23 August 2024 15:04 ENW requested outage on BOW for HEYSH/TRIMP1 tap-change control scheme replacement. END of outage.	Non-OFTO	0d 02h 56m	264.00
18 November 2024 02:57 Buchholz relay trip disconnected Transformer T1. Upon investigation this was due to low oil. Oil was topped up and T1 was returned to service.	OFTO	1d 09h 03m	2974.50
Total			**3,315.00**

TC Ormonde

Outage Date and Time	Reason	Days, Hours and Mins	MWh
27 August 2024 09:00 ENW requested outage on ORM for HEYSH/TRIMP2 tap-change control scheme replacement. START of outage.	Non-OFTO	0d 02h 06m	315.00
06 September 2024 10:03 ENW requested outage on ORM for HEYSH/TRIMP2 tap-change control scheme replacement. END of outage.	Non-OFTO	0d 01h 38m	245.00
25 September 2024 08:54 Outage requested by generator for repairs.	Non-OFTO	0d 03h 37m	234.90
25 September 2024 12:51 Outage requested by generator for repairs.	Non-OFTO	0d 03h 18m	214.34
Total			**1,009.24**

TC Lincs

Outage Date and Time	Reason	Days, Hours and Mins	MWh
20 May 2024 07:33 Trip event. A bird strike on HF3 capacitor bank caused the trip of the HF3 and the export circuit 1.	OFTO	0d 03h 19m	400.79
14 August 2024 06:44 Gas leak repair to onshore 132kV bus section.	OFTO	2d 06h 49m	5678.23
Total			**6,079.02**

TC Westermost Rough

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

TC Dudgeon

Outage Date and Time	Reason	Days, Hours and Mins	MWh
23 May 2024 05:32 Planned outage for EAT1 investigation and sheath fault location.	OFTO	0d 12h 34m	2525.90
Total			**2,525.90**

TC Beatrice

Outage Date and Time	Reason	Days, Hours and Mins	MWh
01 April 2024 00:00 CCT2 outage works to facilitate Blackhillock Reserve Power connection at the Blackhillock onshore substation. (*Subject to future Ofgem consultation as to how such outages are treated under the OFTO's licence)	*OFTO	13d 16h 29m	96574.10
10 April 2024 12:25 CCT1 outage works re-switch at ESO request.	Non-OFTO	0d 00h 29m	142.10
23 April 2024 08:33 Outage to facilitate SSEN-T works.	Non-OFTO	0d 08h 36m	2528.40
08 July 2024 14:44 SSEN-T Outage for Moray West Connection.	Non-OFTO	23d 09h 15m	165007.50
01 August 2024 00:00 SSEN-T Outage for Moray West Connection.	Non-OFTO	8d 19h 59m	62323.10
05 March 2025 08:14 Planned connection of Synchronous Compensators, Blackhillock Reserve Power, as a new user connection.	Non-OFTO	13d 07h 22m	93893.80
Total			**420,469.00**

TC Rampion

Outage Date and Time	Reason	Days, Hours and Mins	MWh
06 August 2024 06:42 Resistance Loop testing of cable joints.	OFTO	0d 11h 49m	2363.33
07 August 2024 06:28 Resistance Loop testing of cable joints.	OFTO	0d 10h 12m	2040.00
Total			**4,403.33**

TC East Anglia 1

Outage Date and Time	Reason	Days, Hours and Mins	MWh
01 April 2024 00:00 Fault event on export cable of circuit 1. Fault located at the onshore section of the circuit approximately 30km from Burstall onshore substation. The fault happened on 28/02/2024 at 21:10h and cct1 was restored at 11/04/2024 17:04h. EA1 limited to 56% by issue of an OCLR.	Non-OFTO	10d 17h 04m	76914.35
11 April 2024 21:30 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 Initially limited to 50% of export capability, later increased to 55.88% by issue of an OCLR.	Non-OFTO	0d 02h 04m	702.67
11 April 2024 23:34 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 limited to 55.88% by issue of an OCLR.	Non-OFTO	18d 09h 38m	132490.00
30 April 2024 09:12 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 Initially limited to 340MW of export capability, later increased to 380MW by issue of an OCLR. The OCLR was cancelled on 30/04/2024 and export capacity reduced to 340MW (50%).	Non-OFTO	0d 14h 47m	5026.33
01 May 2024 00:00 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 limited to 340MW (50%).	Non-OFTO	31d 00h 00m	252960.00
01 June 2024 00:00 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 limited to 340MW (50%).	Non-OFTO	30d 00h 00m	244800.00
01 July 2024 00:00 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 limited to 340MW (50%).	Non-OFTO	31d 00h 00m	252960.00
01 August 2024 00:00 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. Export capability limited to 340MW (50%).	Non-OFTO	31d 00h 00m	252960.00
01 September 2024 00:00 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 limited to 340MW (50%).	Non-OFTO	30d 00h 00m	244794.33
01 October 2024 00:00 Fault event on export cable of circuit 1. Initial indications of an offshore export cable fault. EA1 limited to 340MW (50%).	Non-OFTO	12d 13h 56m	102657.33
Total			**1,566,265.01**

TC Moray East

Outage Date and Time	Reason	Days, Hours and Mins	MWh
10 April 2024 03:43 CCT2 was manually switched out due to loss of DC supplies on OTM leading to loss of control, protection and visibility.	Non-OFTO	1d 08h 20m	9699.03
26 March 2025 08:05 SSEN-T outage. OFTO work nested with onshore TO outage.	Non-OFTO	0d 10h 31m	3123.45
Total			**12,822.48**

BT Walney 1

Outage Date and Time	Reason	Days, Hours and Mins	MWh
15 October 2024 06:00 Orsted generated trip whilst deloading the wind farm to 0MW ahead of planned outage works the following day. Over voltage detected on Orsted 7SJ64 feeder relays; excluded under Amended Standard Condition E12-J4 paragraph 9c.	Non-OFTO	0d 08h 37m	1448.00
16 October 2024 13:35 SCADA (owned by generator) upgrade - Outage; excluded in accordance with amended standard condition E12-J4 clause 9 (b).	Non-OFTO	0d 04h 18m	722.00
27 November 2024 12:15 Orsted generated trip whilst deloading the wind farm to 0MW ahead of planned outage works the following day. Over voltage detected on Orsted 7SJ64 feeder relays; excluded under Amended Standard Condition E12-J4 paragraph 9c.	Non-OFTO	0d 08h 29m	1425.00
Total			**3,595.00**

BT Walney 2

Outage Date and Time	Reason	Days, Hours and Mins	MWh
23 October 2024 10:01 SCADA (owned by generator) upgrade - Outage; excluded in accordance with amended standard condition E12-J4 clause 9 (b).	Non-OFTO	0d 05h 25m	910.00
Total			**910.00**

BT Sheringham Shoal

Outage Date and Time	Reason	Days, Hours and Mins	MWh
05 July 2024 06:19 Circuit 2 six-yearly maintenance and replacement of tap changer.	OFTO	4d 06h 58m	16217.00
10 July 2024 05:57 Circuit 1 six-yearly maintenance and replacement of tap changer.	OFTO	3d 14h 50m	13676.00
24 November 2024 09:22 Filter failure following bird strike.	OFTO	2d 09h 25m	9043.00
24 November 2024 18:47 Delayed string 6 re-energisation following circuit 2 trip.	OFTO	2d 04h 00m	100.00
26 November 2024 18:47 Trip on filter over-voltage protection.	OFTO	0d 23h 20m	3675.00
11 January 2025 06:02 Circuit 1 filter restoration.	OFTO	0d 02h 59m	470.00
11 January 2025 09:42 Circuit 2 filter restoration.	OFTO	0d 01h 06m	173.00
06 February 2025 13:40 Generator requested outage for SF6 top up on 33kV switchgear. Outage of single 33kV circuit.	Non-OFTO	0d 03h 06m	78.00
Total			**43,432.00**

BT London Array

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

Equitix Greater Gabbard

Outage Date and Time	Reason	Days, Hours and Mins	MWh
August - September 2024 Planned outage was for busduct replacement works.	OFTO		
Total			

Equitix Triton Knoll

Outage Date and Time	Reason	Days, Hours and Mins	MWh
December 2024 – February 2025 The outage that straddled December/Jan/Feb was due to a busduct fault caused by water ingress.			
Total			

Equitix Seagreen Phase 1

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

BBEC Gwynt-Y-Mor

Outage Date and Time	Reason	Days, Hours and Mins	MWh
20 September 2024 09:51 SGT1 tripped during oil top-up. No EE claim.	OFTO	0d 03h 31m	943.00
09 December 2024 07:07 SGT1 CT Bushing Replacement. EE claim pending.	OFTO	8d 11h 00m	47459.35
Jan to Mar 2025 Export Cap SSEC3 limited to 76MW. EE claim to be submitted.	OFTO	90d 00h 00m	146372.00
Dec 23 SSEC3 Fault SSEC3 fault. Commenced 14/12/23 12:14 to re-energisation after repair with export cap 30/08/24 21:07. EE claim awarded.	OFTO	260d 08h 55m	843300.00
Aug to Dec 24 Export Cap Export cap 90MW imposed 30/08/24 21:07 to 29/11/24 15:50. Then changed to 60MW until 20/12/24 14:04. Changed to 76MW until end of March 25. No impact to Dec due to EE claim.	OFTO	123d 02h 53m	219114.58
Total			**1,257,188.93**

BBEC Thanet

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

BBEC Humber Gateway

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

West of Duddon Sands

Outage Date and Time	Reason	Days, Hours and Mins	MWh
18 April 2024 06:00 WoDS circuit 2 tap changer oil re-sampling and dissolved gas analysis.	OFTO	0d 06h 16m	1035.00
31 July 2024 11:20 WoDS circuit 1 trip following SVC fault.	OFTO	0d 08h 50m	1459.00
25 September 2024 10:49 WoDS circuit 1 harmonic filter reinstatement.	OFTO	0d 09h 37m	1589.00
20 March 2025 14:29 WoDS circuit 1 harmonic filter trip following testing.	OFTO	0d 20h 23m	3367.00
Total			**7,450.00**

DTP Burbo Bank Extension

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

DTP Race Bank

Outage Date and Time	Reason	Days, Hours and Mins	MWh
01 April 2024 00:00 Onshore cable fault.	OFTO	9d 03h 38m	60237.00
04 August 2024 14:24 Generator outage.	Non-OFTO	5d 03h 32m	6156.90
08 September 2024 15:00 Generator outage.	Non-OFTO	6d 23h 42m	5822.54
Total			**72,216.45**

DTP Galloper

Outage Date and Time	Reason	Days, Hours and Mins	MWh
None			0.00
Total			**0.00**

DTP Walney Extension

Outage Date and Time	Reason	Days, Hours and Mins	MWh
06 May 2024 14:24 SGT2 PRD Mal-operation.	OFTO	1d 00h 10m	7399.00
07 May 2024 14:49 SGT2 PRD Mal-operation.	OFTO	0d 23h 15m	3232.00
08 March 2025 16:49 Z04 220kV Reactor Winding Temp Indicator High temperature trip.	OFTO	1d 00h 25m	7764.00
Total			**18,395.00**

DTP Hornsea One

Outage Date and Time	Reason	Days, Hours and Mins	MWh
01 April 2024 00:00 Deratings for cable remediation.	OFTO	30d 00h 00m	164647.00
01 May 2024 00:00 Deratings for cable remediation.	OFTO	31d 00h 00m	310773.00
01 June 2024 00:00 Deratings for cable remediation.	OFTO	2d 00h 30m	13768.00
18 September 2024 18:14 Internal flashover of X704.	OFTO	1d 16h 38m	25428.51
19 September 2024 06:03 Request from NESO to switch out Circuit 1.	Non-OFTO	1d 04h 49m	9016.79
23 September 2024 11:57 Circuit 2 cable remediation.	OFTO	6d 01h 24m	45495.96
Total			**569,129.26**

DTP Hornsea Two

Outage Date and Time	Reason	Days, Hours and Mins	MWh
01 April 2024 00:00 Deratings for cable remediation.	OFTO	30d 00h 00m	81006.00
01 May 2024 00:00 Deratings for cable remediation.	OFTO	31d 00h 00m	60089.00
01 June 2024 00:00 Deratings for cable remediation.	OFTO	19d 15h 25m	139527.00
27 June 2024 20:10 SGT3 Tap changer defect.	OFTO	3d 03h 50m	2278.02
01 July 2024 00:00 SGT3 Tap changer defect.	OFTO	0d 10h 09m	304.90
02 September 2024 10:47 SPA Snagging works.	OFTO	5d 06h 04m	124134.23
05 September 2024 10:20 GT4 cable remediation.	OFTO	1d 01h 10m	560.66
06 September 2024 12:30 GT3 cable remediation.	OFTO	0d 05h 40m	126.24
19 February 2025 08:32 Cable remediation.	OFTO	1d 18h 13m	13931.80
Total			**421,957.85**

This glossary provides explanations and definitions for common terms used throughout this report.

System Availability

System availability is reduced whenever a circuit is taken out of operation for either planned purposes or following a fault.

Planned outages are required for system construction and new user connections in addition to the maintenance necessary to retain a high level of system reliability to ensure that licence standards of security are met.

System Availability is calculated by the formula:

$$\left(\frac{\text{The sum for all circuits of hours available}}{\text{(No. of circuits) x (No. of hours in period)}}\right) \text{ x 100\%}$$

A circuit is defined as equipment on the transmission system, e.g. overhead line, transformer or cable which either connects two bussing points or connects two or more circuit breakers/disconnectors, excluding busbars.

Winter Peak Availability is defined as the average System Availability over the three months of December, January and February.

Reative Compensation Equipment Availability

System reactive compensation equipment availability is calculated in terms of the summation of the availabilities of individual reactive compensation equipment on the main interconnected transmission system expressed as a percentage of the total capability of reactive compensation equipment.

Reactive compensation equipment is defined as all shunt and series reactive compensation equipment including but not limited to mechanically switched capacitors, shunt reactors, SVCs, dynamic reactive compensators, synchronous condensers.

$$\text{System availability} = \left(\frac{\text{Total MVArh* system is capable of delivering – MVArh* unavailable}}{\text{Total MVArh* system is capable of delivering}}\right)$$

*meaning absolute value

System Unavailability

System Unavailability is calculated by the formula:

(100 – Availability) %

Unavailability falls into 4 categories, 3 of which are planned and the other unplanned:

Maintenance Outages are planned outages required for maintenance;

System Construction Outages are planned outages required to construct or modify assets which are not provided for the exclusive benefit of specific users;

User Connection Outages are planned outages required to construct or modify assets which are provided to facilitate connection for the exclusive benefit of specific system users; and

Unplanned Unavailability is due to outages occurring as a result of plant or equipment failure, i.e. outages required and taken at less than 24 hours' notice.

Offshore System Availability

OFTO availability is calculated using the formula:

$$\left(\frac{\text{Total MWh system is capable of delivering – MWh unavailable}}{\text{Total MWh system is capable of delivering}}\right) \text{ x 100\%}$$

NETS Grid Code and NETS Security and Quality of Supply Standard

The NETS Grid Code and NETS Security and Quality of Supply Standard (NETS SQSS) define the required security level to which the system is planned. The required security level at a substation increases with the amount of demand connected to the substation and so the planned level of demand security is normally higher for 400kV and 275kV transmission voltages than for 132kV. Additionally, the 132kV network is, in parts, less interconnected than the higher voltage systems and so losses of 132kV transmission circuits (for example due to weather related transient faults) are more likely to lead to temporary losses of supply.

Loss of Supply Incidents

A loss of supply incident is defined as any incident on the transmission system that results in an actual unsupplied energy incident to a customer or customers including pumped storage units operating in pump mode.

All transmission system incidents that resulted in a loss of supplies are reported individually giving the date, time and location of the event, duration, demand lost, an estimate of unsupplied energy and relevant factual information relating to the event.

Since 1st April 2013, loss of supply incidents is governed by the Energy Not Supplied (ENS) scheme. The scheme aims to incentivise the Transmission Licensees to minimise the impact of any loss of supply to their customers, that is, to restore supplies as soon as possible after an incident.

Loss of Supply Incidents – Incentivised

An Incentivised loss of supply event is an event on the Licensee's Transmission System that causes electricity not to be supplied to a customer, subject to the exclusions defined in the Special Conditions of the Transmission Licence.

Loss of Supply Incidents – Non-Incentivised

The Non-Incentivised category covers loss of supply incidents that are less than 3 minutes in duration, the energy not supplied is calculated and recorded but not included in the incentivised energy not supplied figure and is reported separately. The Non-Incentivised category also applies to connection arrangements that are chosen by the customer and often have a level of design and operational security below that normally required to satisfy the NETS SQSS. This may be reflected in a reduced cost of the connection. In some cases, customers have also chosen to secure their supplies using their own generation to compensate for this reduced level of transmission security. Loss of supply initiated on a DNO network are not included within this category.

Overall Reliability of Supply

The Overall Reliability of Supply for a transmission system is calculated using the formula:

$$\left[1 - \left(\frac{\text{Estimated Unsupplied Energy}}{\text{Total energy that would have been supplied by the transmission system)}}\right)\right] \times 100\%$$

Voltage Excursions

The Electricity Safety, Quality and Continuity Regulations 2002 permit variations of voltage not exceeding 10% above and below the nominal at voltages of 132kV and above and not exceeding 6% at lower voltages. Any voltage excursions in excess of 15 minutes will be reported.

The NETS Grid Code reflects these limits and imposes a further constraint for the 400kV system in that voltages can only exceed +5% for a maximum of 15 minutes.

Consumers may expect the voltage to remain within these limits, except under abnormal conditions e.g. a system fault outside of the limits specified in the NETS SQSS.

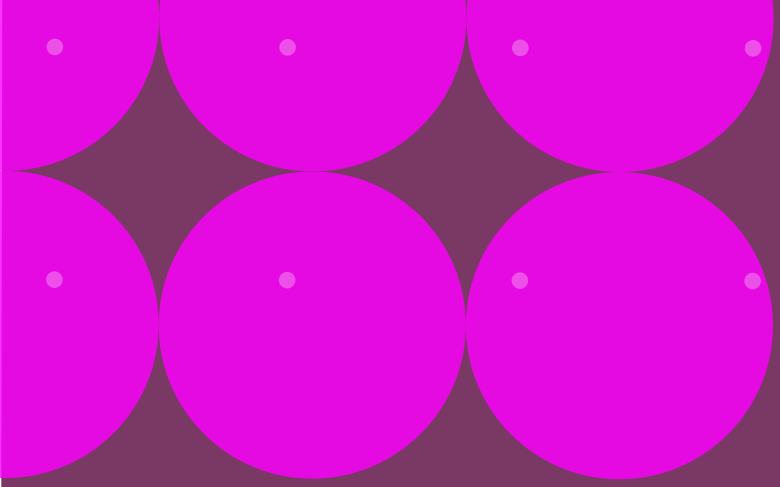
Normal operational limits are agreed and monitored individually at connection points with customers to ensure that voltage limits are not exceeded following the specified credible fault events described in NETS SQSS.

Frequency Excursions

The Electricity Safety, Quality and Continuity Regulations 2002 permit variations in frequency not exceeding 1% above and below 50Hz: a range of 49.5 to 50.5Hz. Any frequency excursions outside these limits for 60 seconds or more will be reported.

The system is normally managed such that frequency is maintained within operational limits of 49.8 and 50.2Hz.

Frequency may, however, move outside these limits under fault conditions or when abnormal changes to operating conditions occur. Losses of generation between 1320 and 1800MW are considered abnormal and a maximum frequency change of 0.8Hz may occur, although operation is managed so that the frequency should return within the lower statutory limit of 49.5Hz within 60 seconds.



NESO
National Energy
System Operator