Electricity Transmission

nationalgrid

September 2025

Our Annual Environmental Report

Our action on climate, nature and resources for the 4th year of this regulatory period

Contents

Introduction

In this section

A year of progress towards our environmental targets

Alice Delahunty

Ciara Taberner

Since 2021, we've been on a journey towards achieving the commitments set out in our RIIO-T2 Environmental Action Plan.

These commitments underpin our ambition to sustainably extend, upgrade and operate England and Wales' electricity network. This report outlines the progress we made in FY25 across carbon reduction, resource efficiency and nature-positive initiatives. Reflecting on the year, we're proud of the strides we've taken.

FY25 was a remarkable year for us. We successfully exceeded our Scope 1 and 2 emissions reduction goal, accelerated our adoption of zero-emission vehicles, committed to 10 per cent Biodiversity Net Gain (BNG) on all sanctioned projects and made substantial improvements to the environmental value of our non-operational land – delivering our 10 per cent improvement a year ahead of target.

All of this was against a backdrop of increasing business activity as we commenced construction on 6 of our 17 major infrastructure projects, delivered £3 billion of capital investment and connected 1.65 GW of low-carbon energy to the network, supporting the UK Government's ambition to make the UK a clean energy superpower.

This scale of investment in the UK's electricity infrastructure is unprecedented and will continue up to 2030, alongside the UK Government's Clean Power agenda. Our challenge is to ensure climate and nature remain fully integrated into our plans. As the size of our business and investment levels increase, we recognise that maintaining progress towards our ambitious climate targets will be difficult. We also know that we have a once-in-a-lifetime opportunity to enhance the natural environment by ensuring we include nature positive outcomes into our projects. This is a challenge we are ready to embrace together, and our Environmental Action Plan will hold us to account.

We are delighted to be leading National Grid Electricity Transmission (National Grid ET) through this exciting chapter, we're ready for the challenges ahead and are fully committed to our role in ensuring the energy transition delivers for people and the environment.

Alice Delahunty

Alice Delahunty
President, Electricity Transmission

Ciara Taberner

Ciara Taberner
Director of Safety, Health, Environment and Communities, Electricity Transmission

We exceeded our Scope 1 and 2 emissions reduction target

...and delivered our target to achieve a 10% improvement in the environmental value of non-operational land, one year early

"We're ready for the challenges ahead and are fully committed to our role in ensuring the energy transition delivers for people and the environment."

FY25 highlights

Net zero

30%
reduction in Scope 1 and 2 emissions (excluding losses) since FY19

17%
reduction in sulphur hexafluoride (SF_6) emissions since FY24

1,649
gigawatts of new low-carbon generation connected

PAS2080
certification achieved

Sustainable use of resources

99.4%
of construction waste diverted from landfill

84.6%
of construction waste recycled

82.8%
of operational waste recycled

34%
reduction in office water usage

Nature positive

100%
of in-scope projects committed to deliver at least 10 per cent BNG, 12 of which committed to 15 per cent or greater

11.14%
improvement in environmental value of our non-operational land since FY21, achieving our 10 per cent target

£9.2m
natural capital uplift on our non-operational land

Supply chain
project launched to understand upstream biodiversity risks and dependencies

Leadership for change

COP29
We participated in COP29 as leaders in the clean energy transition

51
environmental engagement visits carried out across National Grid ET sites

SF_6-free
National Grid ET is leading on a project that aims to deliver an SF_6-free electricity system in the UK

ISO14001
certification maintained

About this report

Welcome to our Annual Environmental Report, the fourth in our current regulatory period.

This report provides an update on progress towards achieving our environmental commitments, as set out in our Environmental Action Plan, and the impacts on the environment from our network.

The scope of this report is focused on performance data for the financial year reporting period 1 April 2024 to 31 March 2025 (FY25); however, future activities are also described.

The focus of this report is solely on National Grid ET's EAP commitment and activities. However, some of the commitments in this document feed into our Group performance and are reported in our annual Responsible Business Reports. Our reporting is mostly aligned with the Responsible Business Report; however, some differences may occur due to reporting and assurance timelines.

This report is supported by a methodology annex which details the scope and boundaries of our environmental commitments and any assumptions made around our calculation methodologies.

How to use this document

Home
This will take you to the home page.

Arrows
Click on the arrows to move backwards or forwards a page.

Reveal/hide
Hover over the magnifying icons to reveal hidden content.

'Linked' content
Words that are underlined have links to other pages in this document, or are URLs.

Our business

We are National Grid Electricity Transmission plc (National Grid ET)

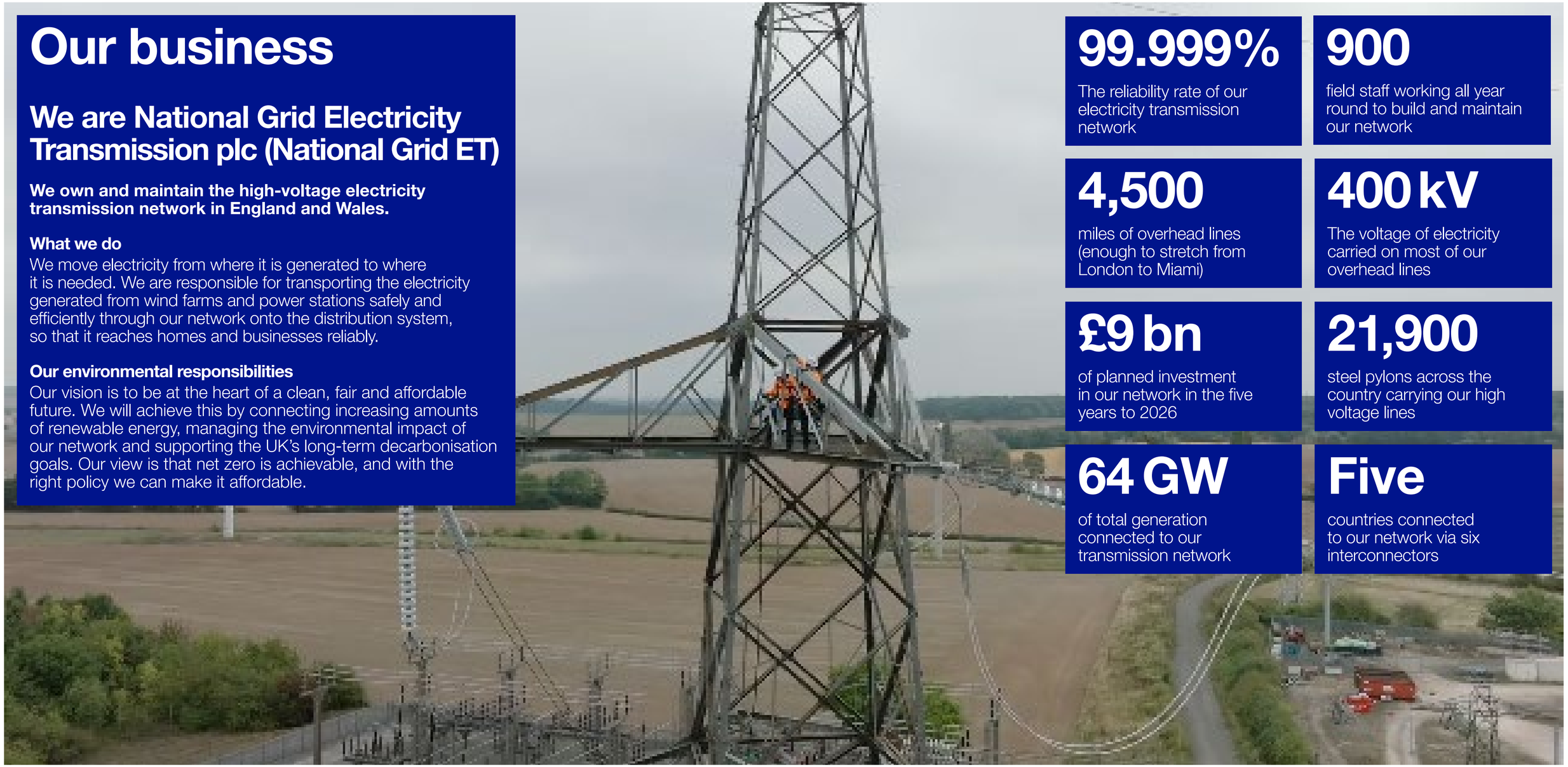
We own and maintain the high-voltage electricity transmission network in England and Wales.

What we do

We move electricity from where it is generated to where it is needed. We are responsible for transporting the electricity generated from wind farms and power stations safely and efficiently through our network onto the distribution system, so that it reaches homes and businesses reliably.

Our environmental responsibilities

Our vision is to be at the heart of a clean, fair and affordable future. We will achieve this by connecting increasing amounts of renewable energy, managing the environmental impact of our network and supporting the UK's long-term decarbonisation goals. Our view is that net zero is achievable, and with the right policy we can make it affordable.



99.999%
The reliability rate of our electricity transmission network

900
field staff working all year round to build and maintain our network

4,500
miles of overhead lines (enough to stretch from London to Miami)

400 kV
The voltage of electricity carried on most of our overhead lines

£9 bn
of planned investment in our network in the five years to 2026

21,900
steel pylons across the country carrying our high voltage lines

64 GW
of total generation connected to our transmission network

Five
countries connected to our network via six interconnectors

Our environmental vision

Significant change is needed to reduce emissions and the deterioration of the natural world. We have set ourselves ambitious environmental commitments within our Environmental Action Plan in response to this call to action.

Our Environmental Action Plan concentrates on four priority areas where we can make the greatest contribution to a more sustainable energy future, aligned to the United Nations' Sustainable Development Goals.

Since our first Annual Environmental Report in 2021, changes to the external environment have prompted us to review and refine our plan every year.

SUSTAINABLE DEVELOPMENT GOALS

In FY25, we achieved and retired three commitments:

- Purchase 100% of electricity we use from renewable sources
- Work collaboratively with the other transmission owners to develop and pilot a common and robust methodology for assessing natural capital impacts and opportunities (associated with Electricity Transmission activities)
- Work collaboratively with the other transmission owners to develop a consistent approach to capital carbon management

In FY25, we added two commitments:

- Identify species-focused initiatives aligned with local priorities as part of construction delivery
- Work collaboratively with the other transmission owners to find common solutions and develop a consistent approach to sustainability issues

Net zero

We play a central role in delivering the UK Government's Clean Power 2030 ambition

Our electricity network is turning the UK's net zero ambition into reality by building the infrastructure needed to deliver secure, affordable and clean power across the country. We are also taking steps towards reducing all aspects of our own carbon footprint across Scope 1, 2 and 3 emissions. We are:

- Reducing SF_6 leaks and using SF_6 alternatives.
- Driving the uptake of zero emission vehicles.
- Purchasing renewable energy to supply our substations and offices.
- Reducing the carbon intensity of our construction activities.
- Engaging with our supply chain to reduce Scope 3 emissions.
- Investing in low-carbon innovation.
- Building resilience against the impacts of climate change.

13 CLIMATE ACTION

In this section

Our 2026 commitments

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

Progress against the implementation milestones is on track.

Progress is delayed but it is likely to be achievable before the end of the regulatory period.

Progress against milestones is at significant risk and highly likely to be missed.

Roll over the panels below to find out how we performed over FY24 and FY25.

1.1 Achieve a 34% reduction in controllable Scope 1 and 2 emissions from a FY19 baseline, with additional targets of: 50% reduction by 2030 and net zero by 2050.

FY24: On track
FY25: On track

1.2 Reduce SF_6 emissions from our operations by 50% by 2030; from a FY19 baseline.

FY24: On track
FY25: On track

1.3 Create a substation energy efficiency programme.

FY24: On track
FY25: Delayed

1.4 Focus on an efficiency-first approach to decrease the carbon emissions from our office energy use by 20% from a 2019/20 baseline.

FY24: On track
FY25: On track

1.5 Replace 60% of our fleet with zero emission vehicles (ZEVs).

FY24: Delayed
FY25: On track

1.6 Reduce carbon emissions for our business transport by 10% on 2013–2020 averages.

FY24: On track
FY25: On track

1.7 Deliver carbon-neutral construction.

FY24: On track
FY25: On track

1.8 Encourage 75% of National Grid's top 250 suppliers (by category/spend) to have carbon reduction targets.

FY24: Delayed
FY25: Significant risk

1.9 80% of suppliers (by emissions) to have cience-based targets (SBT)..

FY24: Delayed
FY25: Significant risk

1.10 Install 1,430 ac electric vehicles (EV) charging bays and 40 dc EV chargers in support of the commercial fleet electrification programme.

FY24: On track
FY25: On track

1.11 All band A-C company cars to be ZEVs.

FY24: On track
FY25: On track

1.12 Phase out the use of diesel generators where commercially and technically viable.

FY24: On track
FY25: On track

Our 2026 commitments

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

Progress against the implementation milestones is on track.

Progress is delayed but it is likely to be achievable before the end of the regulatory period.

Progress against milestones is at significant risk and highly likely to be missed.

Roll over the panels below to find out how we performed over FY24 and FY25.

- **FY24** 17% reduction.
- **FY25** 30% reduction.

- **FY24** 16% reduction.
- **FY25** 33% reduction.

- **FY24** Energy surveys completed at 130 sites.
- **FY25** Project programme created.

- **FY24** 33% reduction.
- **FY25** We have achieved a 17% energy use reduction.

- **FY24** 22% of our fleet has been replaced with ZEVs.
- **FY25** 45% of our fleet has been replaced with ZEVs.

- **FY24** 23.3% reduction*.
- **FY25** 9% reduction.

*Our FY24 figure has been corrected from 30.1% to 24.3%. This is due to us adding transport emissions from Strategic Infrastructure into our calculations last autumn. This is a growing area of our business and the addition has resulted in our emissions reductions being less than originally calculated.

- **FY24** Gap analysis to PAS2080 and Compensation Strategy developed.
- **FY25** PAS20280 certification achieved.

- **FY24** 67% of UK-allocated suppliers (within top 250 by category/spend) engaged through CDP carbon reduction targets.
- **FY25** 67% of UK-allocated suppliers (within top 250 by category/spend) engaged through CDP have carbon reduction targets. 57% (by emissions) have SBT targets.

- **FY24** 67% of UK-allocated suppliers (within top 250 by category/spend) engaged through CDP carbon reduction targets.
- **FY25** 67% of UK-allocated suppliers (within top 250 by category/spend) engaged through CDP have carbon reduction targets. 57% (by emissions) have SBT targets.

- **FY24** 466 EV charging bays installed at 82 sites.
- **FY25** 38 DC EV chargers and 1,348 AC EV charging bays installed.

- **FY24** 96%.
- **FY25** 97%.

- **FY24** Our new policy states that alternative technology is preferred over diesel. Construction partners must also now report fuel and energy consumption data to track diesel usage.
- **FY25** 23% of our total operational fuel use was HVO, an increase from 7% in FY24.

Our role in decarbonising the UK's energy system

We play a central role in supporting the UK Government's Clean Power 2030 ambition by facilitating the rapid decarbonisation of the energy system. We're building essential infrastructure and growing our network to connect low-carbon energy at pace and develop a network that is fit for the future.

Demand for electricity is expected to increase by 50 per cent by 2035 and double by 2050 as we decarbonise the energy used in everyday life, such as heating and transport. By acting now, we're supporting the UK to become a clean, low-carbon economy.

Connecting low-carbon generation to the network

Connecting low-carbon generation to support the decarbonisation of the UK's electricity network is the biggest climate impact we can have as a business. Since April 2024, we have connected 1.65 GW of new low-carbon energy onto the transmission system, reaching a total low carbon capacity of 23.4 GW. A further 2.6 GW of low-carbon capacity is planned for FY26.

A large proportion of the new low-carbon energy is coming from the world's largest offshore wind farm, Dogger Bank, in the North Sea.

Customer connections

Customer satisfaction scores decreased (6.5 in FY25, compared to 7.2 in FY24) and the average time taken to offer a connection increased (74 days in FY25, compared to 69 days in FY24). However, we successfully facilitated more connections. FY25 saw a total of 936 connections, in comparison to 831 in FY24.

We follow the Quality of Connections Incentive, which we anticipated to be challenging this year due to the rapidly growing connections pipeline and its impact on connection dates. We are working closely with others across the industry to address the challenges caused by the current connections pipeline.

As well as focusing on driving value for our customers, we are enabling wider economic benefits. For example, we are delivering a project to connect the largest EV battery manufacturing facility in the UK, contributing to almost half of the projected battery manufacturing capacity required for the UK automotive sector by the early 2030s and creating thousands of jobs.

Our role in decarbonising the UK's energy system

Building the network of the future
In 2023, we launched the Great Grid Upgrade which marks the most significant expansion of the UK transmission network in the past 50 years. Over the next six years, five times more electricity transmission infrastructure will be delivered than was built over the last three decades. As a result, our historically coal and gas-centric energy system will be transformed into a modern network, powered by renewables.

The Great Grid Upgrade comprises 17 major infrastructure projects that will scale up our network to connect clean energy to the grid and reduce the UK's reliance on fossil fuels. These projects will play a vital part in achieving the UK Government's ambition of connecting up to 50 GW of offshore wind by 2030.

The Great Grid Upgrade

≤50 GW
of offshore wind to be connected by 2030

"It's really important that we integrate nature, climate and resource efficiency into delivering our projects across the Great Grid Upgrade. This huge investment programme presents an opportunity to enhance the environment across the whole of the UK and leave it in a better state then we found it. I'm excited to be leading the team delivering the offshore projects and making sure we leave a positive legacy aligned to our key sustainability commitments whilst supporting the UK power grid to decarbonise."

Zac Richardson
Group Chief Engineer
and Strategic Infrastructure
Offshore Delivery Director

Key: Wave 1 projects

EGL1 Eastern Green Link 1
Project link **here**

EGL2 Eastern Green Link 2
Project link **here**

YG Yorkshire Green
Project link **here**

B-T Bramford to Twinstead
Project link **here**

NLR North London Reinforcement
Project link **here**

Map of ASTI Great Grid Upgrade projects

Our role in decarbonising the UK's energy system

Eastern Green Link 1
A joint venture between NGET and SP Energy Networks, Eastern Green Link 1 is a two-gigawatt high voltage direct current (HVDC) electrical connection to be built between Torness in East Lothian, Scotland and Hawthorn Pit in County Durham. EGL1 is set up as an Incorporated Joint Venture and as such NGET has joint control of its activities. Due to the difference in influence and control, the data and performance for EGL1 is reported separately in the incorporated joint venture data tables on page 52.

Eastern Green Link 2
A joint venture between National Grid ET and Scottish & Southern Electricity Networks (SSEN), Eastern Green Link 2 (EGL2) is a 505 km two-gigawatt high voltage direct current (HVDC) electrical connection which will enable the transfer of power from Scotland to England (and vice versa). EGL2 is set up as an incorporated joint venture and as such National Grid ET has joint control of its activities. Due to the difference in influence and control the data and performance for EGL2 is reported separately in the incorporated joint venture data tables on page 52.

Yorkshire Green
Upgrade and reinforcement of the high-voltage electricity network in Yorkshire to improve the transfer of renewable and low-carbon energy across the country.

Bramford to Twinstead
Reinforcement of the network between Bramford substation in Suffolk and Twinstead Tee in Essex, supporting the huge increase in renewable and low-carbon electricity generation connecting along the east coast between now and 2030.

North London Reinforcement
Replacement of the existing overhead line between Pelham substation and Hackney substation to enhance capacity, allowing more electricity to flow to the homes and businesses that require it.

Key: Wave 1 projects

EGL1 Eastern Green Link 1
Project link **here**

EGL2 Eastern Green Link 2
Project link **here**

YG Yorkshire Green
Project link **here**

B-T Bramford to Twinstead
Project link **here**

NLR North London Reinforcement
Project link **here**

Map of ASTI Great Grid Upgrade projects

Our climate targets

Climate change is a threat to our way of life, and to the natural world. Rising temperatures, extreme weather events, loss of biodiversity and sea level rises threaten to disrupt global societies, economies and ecosystems. To avoid the worst impacts, the world needs to deliver rapid reductions in emissions aligned to a 1.5°C pathway, and transition to net zero by 2050.

Our targets:

- Our short-term target is to reduce our controllable* Scope 1 and 2 emissions by 34 per cent by 2026 from a FY19 baseline. This is our T2 Environmental Action Plan target.
- Our medium-term target is to achieve a 50 per cent reduction in Scope 1 and 2 emissions from a FY19 baseline by 2030. This is our science-based target (SBT) in line with keeping global warming to 1.5°C.
- Our long-term target is to reach net zero Scope 1, 2 and 3 emissions by 2050, limiting our use of offsetting to get there.

Figure 1. Understanding our Scope 1, 2 and 3 emissions

Scope 1

Direct emissions

- Fugitive emissions (i.e. SF_6).
- Operational transport.
- Fuel combustion.

Scope 2

Indirect emissions

- Transmission losses.
- Building energy use.

Scope 3

Indirect emissions

- Purchased goods and services.
- Capital goods.
- Fuel- and energy-related activities.
- Waste generated in our operations.
- Business travel.
- Employee commuting.

1.5°C

The world needs to limit its temperature increase to 1.5°C

*Transmission losses are largely outside of our control and are predominantly determined by where electricity is generated (for example, electricity generated closer to where it is needed would result in lower losses across the network). Emissions associated with transmission losses are not included in our short-term 2026 climate target.

Scope 1 and 2 emissions

Our Scope 1 and 2 emissions (excluding losses) totalled 209,201 tonnes CO_2e in FY25 and had reduced by 30 per cent from our FY19 baseline. This outperforms our FY25 reduction target (27.2 per cent).

The reduction in emissions year-on-year is primarily due to SF_6 leak repairs on the network, which led to a 17 per cent reduction in Scope 1 SF_6 emissions alone. You can read about how we tackle SF_6 emissions on page 46.

Total Scope 2 emissions (location-based, excluding losses) slightly increased from FY24 to FY25 due to a reclassification of emissions related to the charging of company electric vehicles, which shifted from Scope 1 to Scope 2. Scope 2 emissions from purchased electricity for substations and offices decreased by 2 per cent and 10 per cent since FY24, respectively.

We have a Power Purchase Agreement (PPA) in place to ensure we buy 100 per cent renewable energy, including both electricity and gas for our metered estate. Our market-based Scope 2 emissions for purchased electricity are 0.

Figure 2. Scope 1 and 2 emissions (excluding losses)

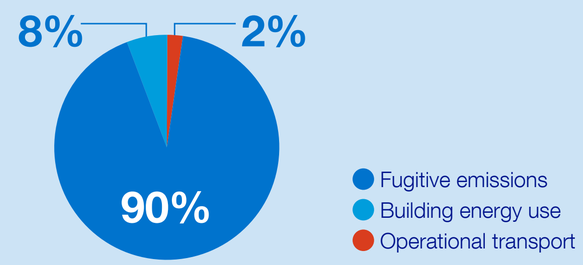


Figure 3. Business carbon footprint (excluding transmission losses)

tCO_2e	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Sulphur hexafluoride losses	272,114	283,651	266,759	229,777	223,003	227,666	188,185
Total energy use	19,924	18,295	16,784	15,141	13,564	15,903	15,888
Total fuel used for transport	6,048	5,735	4,621	5,255	5,155	4,913	4,408

Figure 4. Scope 1 and 2 emissions

Emissions in tCO_2e	Specific area	2018/19 baseline	FY22	FY23	FY24	FY25
Scope 1 – fugitive emissions	Insulating and interrupting gases	272,114	229,777	223,003	227,666	188,185
Scope 1 – operational transport	Direct commercial vehicles	6,798	5,255	5,155	4,913	4,408
Scope 1 – fuel combustion	Diesel, natural gas, bottled gas	Not split out	308	242	577	721
Scope 2 – metered building energy use	Buildings – office/depots electricity	20,006	1,849	1,505	1,141	1,459
	Substation electricity		12,984	11,817	14,185	14,429
	Buildings – office/depots electricity: market based			2,841	998	0
	Substation electricity: market based			22,314	11,708	0
Scope 2 – electricity losses		1,295,484	1,152,795	1,299,340	1,228,468	1,252,860
Total emissions including losses		1,594,402	1,402,719	1,541,062	1,476,951	1,462,061
Total emissions excluding losses		298,918	249,924	241,723	248,482	209,201

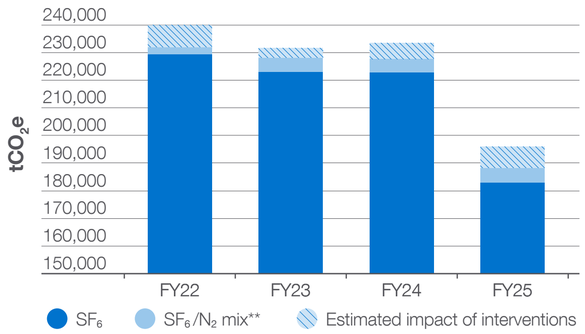
Reducing Sulphur hexafluoride (SF_6) emissions

SF_6 makes up the majority (90 per cent) of our total Scope 1 and 2 emissions (excluding losses), so reducing our fugitive emissions is key to us achieving our climate targets. We're aiming to reduce emissions from our SF_6-filled assets by 50 per cent by 2030, from a FY19 baseline. You can read more about our approach to reducing SF_6 emissions on page 46.

Our performance

Total insulating and interrupting gases (IIG) emissions were 188,185 tCO_2e in FY25, representing a decrease of 33 per cent from a FY19 baseline and 17 per cent since FY24. Our SF_6 leakage rate reduced from 1 per cent in FY24 to 0.87 per cent in FY25. Our focus during T2 has been on SF_6 leak detection and repairs, as well as increasing our investment in SF_6 alternatives together with the other UK transmission owners. Our planned leak repair programme has continued to contribute to significant improvements in the overall leak rate, and therefore lower emissions since FY19. A total of 24 interventions were made in FY25 to repair and prevent SF_6 leaks.

Figure 5. IIG emissions



Did you know?

23,500*

SF_6 is a highly stable gas that has a global warming potential (GWP) of 23,500* times that of carbon dioxide (CO_2).

SF_6 has an atmospheric lifetime of around 1,000 years, which means

it can accumulate without degrading for millennia to come.

80%

of the SF_6 used globally is in electricity transmission and distribution, where it is used as an insulating gas.

Case study

Building our first SF_6-free gas-insulated transmission substation

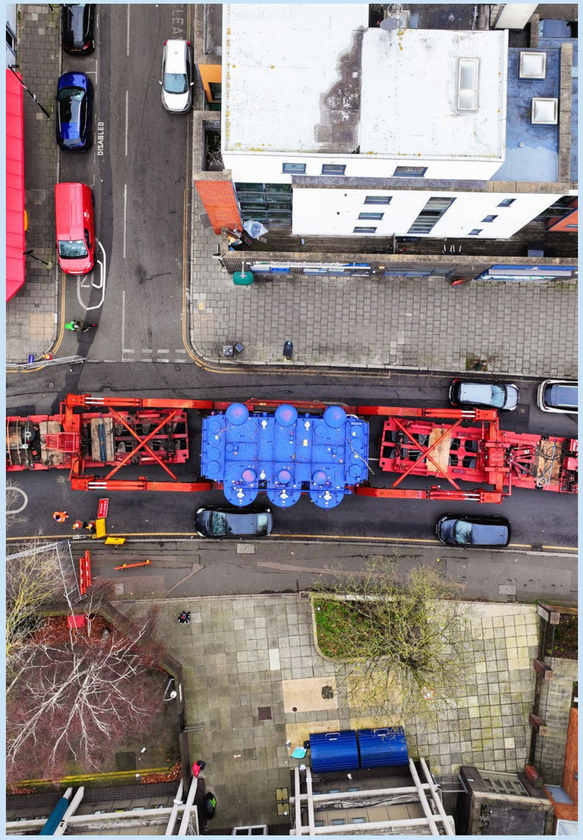
In FY25, National Grid ET and our construction partner Linxon began installing high voltage SF_6-free gas-insulated switchgear (GIS) at the new 400 kV Bengeworth Road substation.

This new substation is situated in the centre of the 32.5 km London Power Tunnels 2 route.

The installation of SF_6-free EconiQ GIS, developed by Hitachi Energy, is a crucial step towards reducing SF_6 emissions from our operations. EconiQ GIS contains an alternative insulating gas, which is a mixture of fluoronitriles, carbon dioxide and oxygen. All high voltage GIS leaks gas at a very low rate, however, the environmental impact is significantly reduced as the gas has a GWP of 298, which is much lower than the GWP of SF_6.

SF_6-free technology has been trialled on our network before, notably at our 400 kV Richborough substation in Kent where engineers successfully removed SF_6 from an existing gas-insulated busbar and replaced it with an SF_6-free gas mixture developed by Hitachi Energy.

*According to IPCC Fifth Assessment Report, 2014 (AR5).



Curbing emissions from transport

Although transport only accounts for around 2 per cent of National Grid ET's Scope 1 and 2 footprint, we're committed to reducing transport emissions to support the uptake of EVs and the decarbonisation of this sector in the UK.

Business transport emissions

In FY25, our reduction in business transport emissions was 9%, significantly lower than the 24.3% reduction achieved in FY24, compared to the 2013-2020 average. This trend is being driven by the growth of our Strategic Infrastructure business unit in terms of both employee numbers and the scale of infrastructure currently being delivered. We have seen a significant increase in car and air mileage in FY25 and despite the use of EV vehicles this has not offset the increase in miles travelled. In FY26 we will work to reduce emissions further but we expect this to be challenging given the recent scale of business growth.

Transitioning to zero emission vehicles

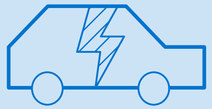
We aim to replace 60 per cent of our commercial fleet with ZEVs by 2026 to help accelerate the decarbonisation of transport in the UK. At of the end of FY25, 368 (45 per cent) of our light-duty fleet vehicles were replaced by ZEVs, compared to 181 at the end of FY24.

We've also set a target for all company cars used by National Grid ET's Senior Leadership team (band A-C) to be ZEVs by 2026. We're on track to meet this target with 97 per cent of our band A-C managers now driving ZEVs at the end of FY25.

Did you know?

Transport

is the highest emitting sector in the UK's economy, making up around 22 per cent of total GHG emissions.



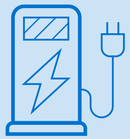
The average diesel car emits approximately 170g of CO_2 per km.

Electric vehicles (EVs) produce zero emissions whilst being driven.

EVs are

efficient

using about 87-91 per cent of energy at the point of use. This is compared to petrol cars which use around 20-30 per cent.



Curbing emissions from transport

Supporting EV uptake among our workforce

We're enabling our employees to take part in the future of clean transportation by installing charging facilities at our premises. These bays are supplied with 100 per cent renewable energy from offshore wind under our Power Purchase Agreement.

At our offices in Warwick, we provide a fully electric, zero-emission shuttlebus for colleagues. This free service, which operates between Leamington Spa town centre, the train station and our office, covers around 50,000 km on the route annually, resulting in savings of nearly 30 tonnes of CO_2 per year.

"There's huge potential to drive net zero ambitions by transforming the fleet industry to electric vehicles. Viable electric cars and vans weren't around eight years ago and it's exciting to see the progress that's being made."

Lorna McAtear
UK Fleet Manager

Using drones to inspect our network

Inspecting our overhead lines and pylons to understand the condition of our assets is essential to ensuring the reliability of the grid. We have two helicopters that are used to inspect our assets which contribute towards our Scope 1 emissions, producing around 4,000 kg of CO_2e on an average inspection flight.

We're increasing our use of autonomous drones as a more sustainable option for close inspection surveys. These drones produce no direct emissions and are safer than helicopters.

100%
of electricity supplied to our charging bays is renewable energy from offshore wind

Case study

Expanding EV charging facilities

In FY25, we commissioned one of the largest private EV charging facilities in the UK, with a huge expansion of our EV charging points at our Eakring training facility.

Eakring now has charging facilities for 86 vehicles. To accommodate this, we've had to triple the amount of power coming to site. By installing these charging facilities, we are ensuring that our workforce has the confidence to make the switch to EVs.

Cutting emissions from energy use

We have over 300 substations and 25 office buildings, so improving energy efficiency and switching to low-carbon energy sources in our existing substations and offices is critical to our efforts to achieve our climate targets.

Substation energy efficiency programme

Installing energy efficiency measures across our operational estate is a key enabler in reducing our environmental impact.

In FY25 we've developed an energy efficiency programme for high priority sites targeting several common energy saving opportunities:

- Solar PV Installation
- High-efficiency, low-carbon heating and ventilation systems
- Building fabric upgrades including draughtproofing and windows and doors upgrades.

We have started work on two substation pilot sites at Daines and Penwortham.

Energy efficient offices

We are committed to reducing the carbon emissions from our office energy use by 20 per cent by FY26, from an FY20 baseline. This year we have achieved a 17 per cent energy use reduction. We invest in energy efficiency measures, such as LED lighting and adaptive heating, ventilation, air conditioning and lighting systems to match occupancy levels in our buildings.

Phasing out diesel on our substations

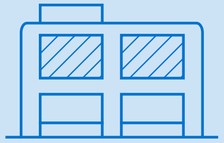
Diesel generators are used as back-up to power our substations in the event of a power disruption.

In FY24, we published new guidance encouraging our substations to move to hydrotreated vegetable oil (HVO) for standby generators. While the initial cost of HVO is higher, it has a much reduced environmental impact and reduces emissions by up to 95 per cent. In FY25 23 per cent of our operational fuel use was HVO, an increase from 7 per cent since FY24.

Did you know?

30%

The operations of buildings account for 30 per cent of global final energy consumption.

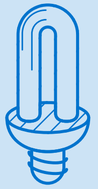


Lighting accounts for nearly

5% of global CO_2 emissions.

1,400 million tonnes

A global switch to energy efficient light emitting diode (LED) technology could save over 1,400 million tonnes of CO_2.



Our Transmission Losses Strategy

The generation of electricity to compensate for transmission losses leads to additional greenhouse gas emissions. In fact, most of our Scope 2 emissions result from transmission losses across our network.

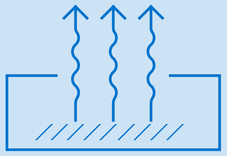
Transmission losses are largely outside of our control and are predominantly determined by how far electricity travels on the network. The growth in recent years of large, remote wind farms has tended to increase transmission losses because the power generated needs to be brought to more heavily populated areas.

In the near term, we expect our emissions from transmission losses to increase. However, as new low-carbon generation displaces existing fossil fuel plants and reduces the carbon intensity of the grid, and by making proactive investments in network efficiency, we will see significant reductions in emissions over time.

We do not expect reductions to be linear as we progress towards our targets. Our emissions from transmission losses increased by two per cent from last year.

Did you know?

When **electrical currents** travel on our network, some energy is dissipated in the form of heat and is 'lost' due to the electrical resistance in the network.



Due to network losses, generators must produce more energy to ensure that **demand users receive all the energy they need.**

1.7% of the electricity transferred over the transmission network is lost.

Figure 6. Transmission losses

Transmission losses	Unit	FY22	FY23	FY24	FY25
Annual losses	TWh	5.4	6.7	5.9	6.1
Share of total electricity	%	2.08	2.51	2.35	2.39
CO_2 emissions	tCO_2e	1,152,995	1,299,340	1,228,468	1,252,860

Our approach

Our Transmission Losses Strategy outlines how we account for transmission losses in equipment specifications and procurement processes, as well as for investment decision-making. Furthermore, it details our planned asset replacement programmes and new technologies, allowing us to plan for and mitigate the associated impacts on transmission losses in the future. Transmission losses are one of several factors we consider when developing new infrastructure projects.

Scope 3 emissions

We plan to invest £35 billion in our transmission network between now and 2031* to support the UK energy transition. We are working proactively with our supply chain to minimise our climate impacts whilst acknowledging that this scale of increased investment is likely to increase our total Scope 3 emissions.

Our estimated Scope 3 emissions totalled 1,358,335 tCO_2e in FY25. This is an increase from FY24 (945,385 tCO_2e) resulting from increased purchase of goods and services, such as the construction materials that we use to upgrade our network.

Improving our Scope 3 inventory

We expect our Scope 3 emissions to increase in line with planned investment in new energy infrastructure, and therefore we work to continually improve the accuracy of our inventory to ensure that it reflects our evolving business activities.

In FY25, we improved our methodology for calculating emissions. This work forms part of a long-term plan to improve our Scope 3 reporting. In future, we intend to work towards supplier specific data to better reflect our actual emissions and allow us to show the impact of our work to reduce supply chain emissions.

£35 bn
of planned investment into our transmission network between now and 2031

Table 1. Scope 3 emissions

Scope 3 by Greenhouse Gas Protocol category	FY24 emissions (tCO_2e)	FY25 emissions (tCO_2e)	Reporting maturity	Materiality
1: Purchased goods and services 2: Capital goods	665,814	1,075,683	Medium	High
3: Fuel and energy related activities	276,406	278,634	High	Medium
5: Waste generated in operations	569	613.62	High	Low
6: Business travel	936	1,029	High	Low
7: Employee commuting	2,229	2,375	Medium	Low
Total	**945,385**	**1,358,335**		

*Based on our T3 business plan.

Figure 7. Scope 3 emissions (tCO_2e)

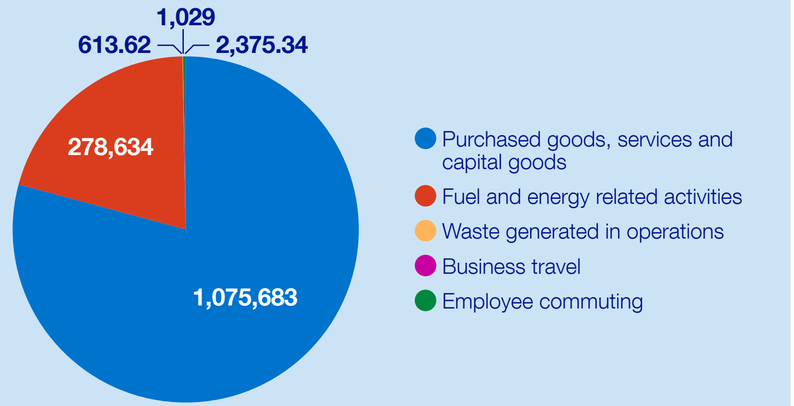
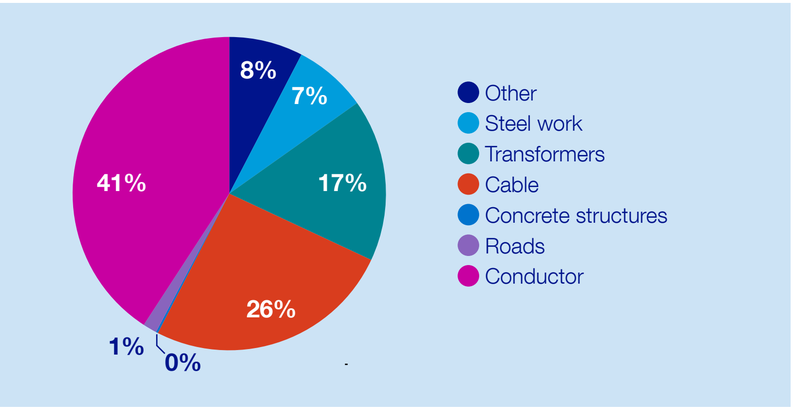


Figure 8. Carbon hotspots of completed projects



Low-carbon construction

As we grow our network to ensure that it is fit for purpose for a net zero future, we continue to focus on reducing the carbon emissions of our construction projects.

Achieving carbon-neutrality in construction
In 2021, we set a target to achieve carbon-neutrality across our construction and maintenance programmes by 2026. At the time, this target made sense. Since then, we have seen the standards and language around carbon-neutrality change. We have also significantly scaled up our investment plans to respond to government targets. Given this evolving landscape we could not credibly achieve a carbon-neutral position in 2026. We have therefore altered our commitment to deliver low-carbon construction and fund compensation projects for the residual emissions associated with construction activities that were planned at the start of RIIO-T2.

We developed six strategic priority areas to deliver our carbon-neutral construction commitment:

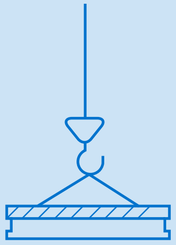
Priority area	Progress made in FY25
Fit for purpose tools, data and reporting	We rolled out a new digital carbon tool, Moata, to streamline and digitise whole life carbon management.
Industry and project-level carbon reduction action plan	National Grid ET has led industry-wide decarbonisation by collaborating with other transmission owners, Distribution Network Operators, and the supply chain. We are working with the International Council on Large Electric Systems (CIGRE) to establish a standard for carbon Life Cycle Assessments at substations.
PAS2080-aligned carbon management system	We are PAS2080 certified.
Carbon knowledge and capability	77% of our employees completed our online carbon management training course.
Carbon compensation delivery plan	We have develped a Carbon and Nature Framework that will allow us to invest in UK-based carbon compensation projects. You can read about our new framework on page 47.
Whole life carbon beyond 2026	We are developing a low-carbon construction and nature roadmap. This new roadmap will outline our key steps towards 2031, developed by SMEs and supply chain partners.

Did you know?

The built environment and **construction sector** significantly contributes to global carbon emissions, accounting for 38 per cent of the total.

The **concrete sector** accounts for up to 8 per cent of global emissions, and 1.5 per cent of UK emissions.

The **iron and steel sector** accounts for 7 per cent of global emissions.



Low-carbon construction

Case study

Moata, our new digital carbon tool

In FY25 we rolled out a new digital carbon tool, Moata, to streamline and digitise whole life carbon monitoring and reporting for construction projects.

Developed by Mott MacDonald and funded by Ofgem's Network Innovation Allowance (NIA), the new tool is user-friendly, allowing us to identify carbon hotspots easily, and aligns with PAS2080. We successfully trialled this tool with our supply chain who provided valuable insights and feedback to ensure a collaborative approach to development.

"Our new digital carbon tool represents a significant step forward in tracking and managing our carbon impact across our project portfolio. By strengthening our reporting capabilities, it will enable us to prioritise efforts in reducing emissions."

Paul de Jong
Head of Environment, Sustainability and Energy

Case study

Purchasing high quality credits as carbon compensation

We partnered with Forest Carbon, an organisation specialising in the creation of forests and the restoration of peatlands, to buy around 14,000 credits/units.

These pending issuance units (PIUs) have been provided through a bespoke portfolio of UK-based forested areas managed by Forest Carbon and deliver multiple co-benefits to the natural environment.

We collaborated with HACT, an organisation offering an award-winning and new credit type that involves the implementation of energy efficiency initiatives in low-income households.

We purchased around 1,000 credits of currently achieved carbon reduction. HACT's work also delivers multiple social benefits to communities.

FOREST CARBON

HACT

14,000 PIUs
Number of units or 'promises' that we have pledged to buy for future carbon removal

Low-carbon construction

Capital carbon intensity

Tracking our carbon intensity helps us to measure our progress towards net zero and is a more reliable indicator of our progress than total emissions, given the significant increase in planned investment between now and 2030.

In FY25, our carbon intensity was 141 tCO_2e/£m*, a decrease from FY24 (145 tCO_2e/£m). We've used alternatives to materials with a high carbon intensity such as concrete and steel and refurbished assets where it has been possible to do so. The pace of project delivery is an important consideration when planning for the use of low-carbon alternatives as the associated carbon benefit could be outweighed by that lost through a delay in the decarbonisation of our network.

Phasing out diesel on our construction sites

In line with our diesel-free commitment, we are phasing out the use of diesel on construction sites and replacing it with HVO where commercially and technically viable.

In FY25, we updated our supplier requirements to mandate our contractors to purchase HVO with sustainability certification and in line with the responsible sourcing of HVO guidance from the Supply Chain Sustainability School.

We require all our potential construction contractors to provide details of plans to reduce emissions as part of the tender process.

141 tCO_2e/£m

Our total carbon intensity in FY25, a decrease from FY24

*Reporting only includes project that started post 21 April and have been completed within FY25.

Case study

Solar panels installed at Harker substation

We are replacing and rebuilding our substation at Harker, near Carlisle in Cumbria, reconfiguring the overhead lines, adding new conductors and refurbishing the existing pylons so that the substation can continue to serve as a critical asset in the UK's energy network.

As part of our commitment to delivering low-carbon construction and phasing out diesel, we installed solar panels at the Harker site in FY25.

The solar panels are expected to generate 123,858 kWh per year to power construction activities as the primary energy source. This will save approximately 45,717 kg of CO_2 per year – that's equal to the CO_2 generated from around 299 flights from London to Paris.

Harker is taking several other steps to reduce emissions:

- using HVO as back-up to solar power
- installing energy-efficient LED flood and road lighting
- making use of a mix of diesel, electric and hybrid vehicles, as well as public transport and car-sharing arrangements.

Working with our suppliers to reduce Scope 3 emissions

The majority of our remaining business carbon footprint (excluding transmission losses) is Scope 3 supply chain emissions. Working with suppliers to set science-based targets and implement strategies to reduce emissions at different stages of the supply chain is therefore key to the delivery of our carbon commitments.

Setting science-based targets

In line with our Group Responsible Business target, we ask suppliers that are within the top 80 per cent of Group suppliers (by emissions) to commit to setting a formal science-based target (SBT) by FY26. In FY25, 67 per cent of our UK-allocated suppliers that submitted data via CDP had carbon reduction targets – this figure remains unchanged from FY24. Of our suppliers, 57 per cent have science-based targets (SBT).

Engaging with our construction contractors

Most of our Scope 3 emissions result from the construction materials that our contractors purchase, such as concrete, steel and aluminium. We're focusing on engaging with our construction contractors to find ways to reduce the carbon impact of our construction activities.

In FY25, we established the supply chain carbon steering group. This group aims to facilitate the sharing of knowledge and best practices in carbon management and supports our contractors to align with PAS2080.

We also engage with our construction contractors via National Grid ET's Sustainability Leaders Forum. This forum covers a wider range of sustainability topics, including carbon management, circular economy and the delivery of BNG.

Upskilling suppliers

We understand that members of our supply chain are at different stages on their journey to net zero and we provide learning materials and support to help them understand their impacts and identify focus areas to reduce their own emissions.

We offer a bespoke learning pathway via the Supply Chain Sustainability School for our suppliers as part of our SBT programme and, in FY25, we ran a PAS2080 workshop through the Supply Chain Sustainability School to upskill our contractors.

67%
of our UK-allocated suppliers that submitted data via CDP had carbon reduction targets

57%
of our suppliers (by emissions) have science-based targets (SBT)

Investing in low-carbon innovation

In FY25, we refreshed our Innovation Strategy in response to a renewed focus on the UK's net zero goals with the introduction of the Government's Clean Power 2030 agenda. We know that to deliver this highly ambitious target we need to embrace new technologies and better ways of working.

"To support net zero, our innovation must deliver real benefits for consumers, customers, and the industry. We're accelerating delivery and shifting more of our portfolio into deployment."

David Adkins
Head of Network Architecture and Innovation

Investments

As part of our regulatory innovation portfolio funded by Ofgem's Network Innovation Allowance (NIA), we invested £18.2 m in FY25 in a range of projects that support decarbonisation and the transition to net zero. From this investment, £1.9 m was allocated to projects that aim to reduce SF_6 emissions and £4.1 m on climate resilience projects to protect our assets against extreme weather-related events.

Innovation and Research & Development (R&D) portfolio

Our innovation and R&D portfolio enables us to identify and target carbon savings for our operations. We are focusing on areas where we can make the biggest difference, such as our fugitive emissions and the carbon content of our construction materials. In line with our low-carbon construction targets, we've designed a specific portfolio of innovation projects that focus on reducing the environmental impact of our construction activities.

£18.2m
Amount we invested in projects that support decarbonisation in FY25

£4.1m
Amount we spent on climate resilience projects in FY25

Our Innovation Strategy has four focus areas that support the journey to net zero:

Build the Future Network | Accelerate Customer Connections | Enhance Sustainability | Improve Resilience

Case study

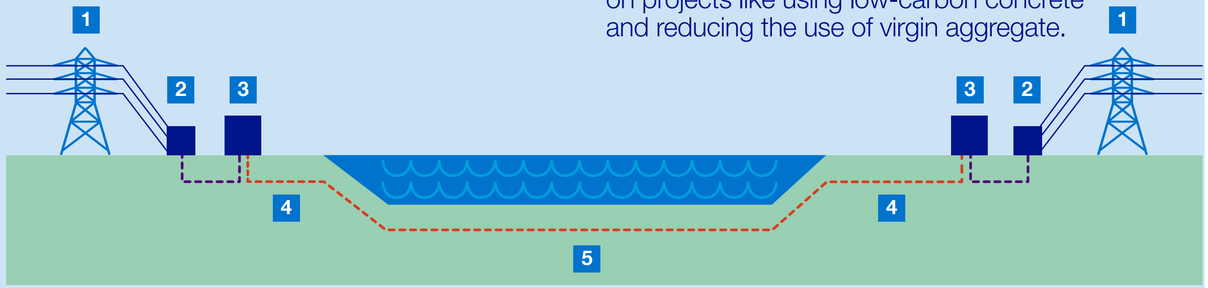
Ground-breaking environmental research into high voltage direct current (HVDC) transmission systems

Our Innovation and Environment teams partnered with DNV to conduct a study to understand the carbon footprint of our new HVDC transmission systems.

HVDC transmission systems are generally considered to have lower emissions compared to traditional alternating current (AC) transmission systems. HVDC systems transmit power over longer distances with less energy loss.

However, these systems do require additional equipment such as large converter stations and transformers, which produce emissions during their manufacture and operation.

National Grid ET, together with DNV, conducted a lifecycle assessment of an average HVDC system. The study highlighted new carbon saving opportunities such as decarbonising the copper used in the cables and swapping to low-carbon marine fuels, in addition to opportunities we already adopt on projects like using low-carbon concrete and reducing the use of virgin aggregate.



---- High voltage alternating current underground cable
---- HVDC underground cable

1. Existing network
2. Substation
3. Converter station
4. Undergound cable
5. Submarine current

Climate change resilience and adaptation

We take our job of 'keeping the lights on' very seriously and work hard to ensure that our network of pylons, cables and substations are resilient to flooding, storm conditions and extreme heat, all of which are made more likely by climate change.

Our Climate Change Adaptation Strategy demonstrates our commitment to ensuring the reliability and sustainability of our electricity transmission network and builds upon climate resilience mitigations that are already in place (i.e. flood mitigation).

We have defined the following strategic objectives to maintain a resilient network:

1. **Set smarter targets for resilience.**
2. **Embed resilience in network design and operations.**
3. **Explore innovative solutions.**
4. **Support systemic adaptation.**

Investing in climate resilience

We invest around £1.3 billion each year to adapt and develop our network. This includes upgrading and maintaining equipment and routinely checking on the condition of our assets and the environment around them. Our teams work hard to plan ahead, making sure the network is in good condition before extreme weather sets in.

Protecting our assets from flooding

National Grid ET's latest Climate Change Adaptation Report, published in December 2024, ranked coastal management policies and flooding from storm surges as one of our highest impact climate risks. We protect our substations against flooding by installing flood defences and elevating them off the ground. Where possible, we seek to locate new sites away from flood risk areas.

To better manage the risks, we have developed a prototype severe weather alerts tool that gives clear visibility over potential flooding events and the risk to our sites. We're in the process of implementing this tool.

The development of the tool included the installation of our own water-level sensors on a selection of sample sites. We plan to install these on all our flood risk sites with cameras to capture still images.

£1.3 bn
Amount we invest each year to adapt and develop our network

Did you know?

Four of the five wettest years have occurred since 2000 and winter rainfall has increased significantly, with the

2015-2024
period seeing 16 per cent more rainfall than the 1961–1990 average.

Around
6.3 million
properties (homes and businesses) in England are in areas at risk of flooding.

Walham substation protected by flood defences

Sustainable use of resources

Our energy networks require finite resources such as steel for pylons and aluminium for overhead lines.

As the competition for resources increases, it's essential that we make the most of all the materials we use. Within our construction, operations and office locations, we are focusing on:

- Diverting as much waste as possible from landfill.
- Increasing our recycling rates.
- Reducing the amount of waste created.
- Reducing our water use.
- Aligning to external industry standards.

We are doing this by influencing a change in behaviour with our employees, contractors, and suppliers.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

In this section

Our 2026 commitments

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

Progress against the implementation milestones is on track.

Progress is delayed but it is likely to be achievable before the end of the regulatory period.

Roll over the panels below to find out how we performed over FY24 and FY25.

2.1 Achieve zero waste to landfill across our construction projects.

FY24
FY25

2.2 All construction projects to report on waste avoidance opportunities.

FY24
FY25

2.3 Maintain an 80% recycling rate in construction.

FY24
FY25

2.4a Increase our operational recycling rate from 45% to 60%.

FY24
FY25

2.4b Increase our office recycling rate from 46% to 60%.

FY24
FY25

2.5a Reduce the waste tonnage (from a FY20 baseline) at our offices by 20%.

FY24
FY25

2.5b Reduce water use (from a FY20 baseline) at our offices by 20%.

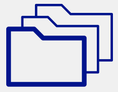
FY24
FY25

2.6 Pilot and implement circular economy principles by aligning our business to international recognised standards, e.g., BS8001 Circular Economy Standards.

FY24
FY25

2.7 Align our Procurement Strategy to international recognised standards, e.g. ISO20400 Sustainable Sourcing Standard.

FY24
FY25



2.8 Maintain our high standards of oil containment and pollution management.

FY24
FY25

Our 2026 commitments

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

Progress against the implementation milestones is on track.

Progress is delayed but it is likely to be achievable before the end of the regulatory period.

Roll over the panels below to find out how we performed over FY24 and FY25.

- **FY24** 99.4% of construction waste diverted from landfill.
- **FY25** 99.4% of construction waste diverted from landfill.

- **FY24** One construction project identified waste avoidance opportunities.
- **FY25** Four construction projects identified waste avoidance opportunities.

- **FY24** 86.5% recycle rate.
- **FY25** 84.6% recycling rate, with 99.36% recycled or reused.

- **FY24** 78% operational recycling rate.
- **FY25** 82.8% operational recycling rate, with 88.6% recycled or reused.

- **FY24** 54% of our office waste recycled.
- **FY25** 54% of our office waste recycled.

- **FY24** 33% reduction.
- **FY25** 16% reduction.

- **FY24** 19.7% reduction.
- **FY25** 34% reduction.

- **FY24** Outcomes of the Circular Economy Standard were built into our T3 business plan.
- **FY25** By the end of T3, we want to achieve the ‘engaged’ level in BS8001:2017 circular economy standard.

- **FY24** Three-year Supply Chain Sustainability Strategy developed in line with ISO20400.
- **FY25** Revamped our three-year stategy to embed sustainability into sourcing activities.

- **FY24** 52 environmental engagement visits were carried out.
- **FY25** 51 environmental engagement visits were carried out.

Resources and circularity

Our business activities consume finite resources against a backdrop of ever-increasing competition for the materials that we need to deliver the UK energy transition. Responsible resource consumption, along with maximising our reuse and recycling rates, makes good business sense for us, as well as providing environmental benefits.

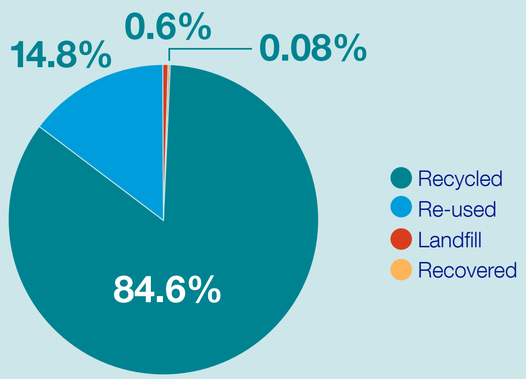
Resource efficiency in construction

Our construction projects require significant use of natural resources, and produce the largest volume of waste across our business. Increased investment to support the UK energy transition is likely to compound this.

Minimising the use of natural resources and reducing waste also support our climate and nature targets by lowering our Scope 3 emissions and reducing the impacts on nature associated with (upstream) material extraction and (downstream) waste disposal, such as water and soil pollution, air pollution and habitat loss.

99.4%
of construction waste which is reused, recycled, or recovered

Figure 9. Pie chart of construction waste types



The data, above, excludes European Waste Catalogue exclusion list waste materials.

Zero waste to landfill

In FY25, 99.4 per cent of construction waste was diverted from landfill and either reused, recycled, or recovered. 100 per cent diversion could not be achieved because some soil waste from one of our projects, contained Giant Hogweed seeds. Alternative disposal options were considered (i.e. burying) however, due to ground contamination and seed spreading risks, these options were deemed not viable and the waste was sent to landfill.

Recycling and reusing construction waste

In FY25, 84.6 per cent of construction waste was recycled with a further 14.8 per cent reused. A large proportion of this waste consisted of soil and stones that are recovered or reused.

Table 2. Waste stream recycling targets and performance

Waste generation (tonnes)	FY22 (tonnes)	FY22 (%)	FY23 (tonnes)	FY23 (%)	FY24 (tonnes)	FY24 (%)	FY25 (tonnes)	FY25 (%)
Construction*	781,686	99.75%	761,686	99.76%	224,449	97.93%	270,835	97.71%
Operational	1,908	0.24%	1,769	0.23%	4,653	2.03%	6,238	2.25%
Office	61	0.01%	84	0.01%	91	0.04%	104	0.04%
Total	**783,655**		**763,539**		**229,193**		**277,177**	

*Includes European Waste Catalogue exclusion list waste materials which accounts for 3,299.77 tonnes.

Did you know?

Construction creates an estimated **third of the world's overall waste.**

The construction sector is the largest user of materials, such as concrete and steel, in the UK.

Earth Overshoot Day is when the global consumption of resources for a given year exceeds the earth's capacity to replace those resources for the same year. In 2024, it fell on 1 August, meaning we need around 1.75 earths to match our resource demands.

Resources and circularity

Working with our suppliers to improve resource efficiency

At our London Power Tunnels project, we have worked with our suppliers to reduce the tunnel from 3.6 m to 3 m. This resulted in a 275,047 m^3 reduction in the amount of soil waste produced. As we develop our circular economy efforts, we expect to collaborate with our supply chain to unlock more opportunities to design out waste during the next regulatory period.

We're updating our supplier requirements to ensure that resource use is considered at the design stages of our projects to help design out waste, and ultimately reduce waste generated in projects.

Resource efficient substations

Our operational waste includes metal from decommissioned equipment, as well as oil and glass from decommissioned insulators. Our aim is to recycle at least 60 per cent of our operational waste. We exceeded this target in FY25, with a 88.5 per cent operational waste recycling rate.

Refurbishment centres and oil management units

We have two asset refurbishment centres that refurbish and recondition equipment such as ground earth switches and rotator arms. This can prolong asset life for a further 25-60 years. We also have two oil management units. These sites are fully permitted waste handling sites and are equipped to clean used transformer oils, which get recycled and reused in our network. In FY25, the sites collectively recycled 834 tonnes of waste transformer oil, which was reused in switch gear and circuit breakers.

Green offices

In FY25, 54 per cent of waste generated at our offices was recycled maintaining the same level as FY24. We reduced overall office waste tonnage by 16 per cent compared to our 2020 baseline, a decline from 33 per cent in FY24 but still within our interim target for FY25. The decrease in performance is due to office refurbishment projects, which resulted in an increase in waste generated.

Water usage

We use mains water to serve our operational sites and freshwater is abstracted under licence from the Regent's Canal to provide cooling for high voltage underground cables in a closed loop system. In FY25, 3.6 million m^3 was abstracted and discharged.

In March 2025, 13.5 million m^3 of water was used by the fire brigade to extinguish a large fire at National Grid ET's North Hyde substation in West London. 3.5 million m^3 of wastewater was subsequently removed from site for treatment.

We achieved a 34 per cent reduction in water usage in FY25 compared to our FY20 baseline, an improvement on the 20 per cent reduction recorded in FY24. We are in the process of installing automated water meters and sub-meters at high consumption sites.

Case study

3D printing concrete substation foundations

We are working with Hyperion Robotics and the University of Sheffield to manufacture, install and test low-carbon 3D-printed concrete foundations to minimise concrete usage and reduce carbon emissions. Ofgem, our regulator, is funding this new approach through its Network Innovation Allowance.

If the project is successful and the technology rolled out across all our substations, up to 705 tonnes of concrete and 323 tonnes of CO_2 could be saved over a 10-year period. The new design will use 72 per cent less concrete than traditional methods, decrease embodied carbon emissions by 70 per cent, and make significant cost savings.

Resources and circularity

Working with our suppliers to improve resource efficiency

At our London Power Tunnels project, we have worked with our suppliers to reduce the tunnel from 3.6 m to 3 m. This resulted in a 275,047 m^3 reduction in the amount of soil waste produced. As we develop our circular economy efforts, we expect to collaborate with our supply chain to unlock more opportunities to design out waste during the next regulatory period.

We're updating our supplier requirements to ensure that resource use is considered at the design stages of our projects to help design out waste, and ultimately reduce waste generated in projects.

Resource efficient substations

Our operational waste includes metal from decommissioned equipment, as well as oil and glass from decommissioned insulators. Our aim is to recycle at least 60 per cent of our operational waste. We exceeded this target in FY25, with a 88.5 per cent operational waste recycling rate.

Refurbishment centres and oil management units

We have two asset refurbishment centres that refurbish and recondition equipment such as ground earth switches and rotator arms. This can prolong asset life for a further 25-60 years. We also have two oil management units. These sites are fully permitted waste handling sites and are equipped to clean used transformer oils, which get recycled and reused in our network. In FY25, the sites collectively recycled 834 tonnes of waste transformer oil, which was reused in switch gear and circuit breakers.

Green offices

In FY25, 54 per cent of waste generated at our offices was recycled maintaining the same level as FY24. We reduced overall office waste tonnage by 16 per cent compared to our 2020 baseline, a decline from 33 per cent in FY24 but still within our interim target for FY25. The decrease in performance is due to office refurbishment projects, which resulted in an increase in waste generated.

Water usage

We use mains water to serve our operational sites and freshwater is abstracted under licence from the Regent's Canal to provide cooling for high voltage underground cables in a closed loop system. In FY25, 3.6 million m^3 was abstracted and discharged.

In March 2025, 13.5 million m^3 of water was used by the fire brigade to extinguish a large fire at National Grid ET's North Hyde substation in West London. 3.5 million m^3 of wastewater was subsequently removed from site for treatment.

We achieved a 34 per cent reduction in water usage in FY25 compared to our FY20 baseline, an improvement on the 20 per cent reduction recorded in FY24. We are in the process of installing automated water meters and sub-meters at high consumption sites.

Case study

Reusing SF_6 gas to avoid buying new

Our SF_6 team have developed relationships with the supply chain to introduce treatment and storage of SF_6 for reuse, thereby avoiding its disposal and the purchase of new virgin SF_6.

So far, we've treated 9 tonnes of SF_6 gas from the Littlebrook substation which can now be reused in switch gear on other sites.

To further reduce our SF_6 consumption, many of our new switch gear are equipped with state-of-the-art sensors, which remotely detect SF_6 leaks at the very early stages. This allows us to implement predictive maintenance measures and respond before significant leaks occur.

Maintaining high standards of oil containment and pollution management

We are actively working to prevent pollution that may result from our activities and continually improve our environmental management system (EMS) to protect the environment and reduce the risk of environmental harm.

NRAP 4

Preventing pollution

Insulating oils are contained within much of our transmission equipment including transformers, circuit breakers and fluid-filled cables. To reduce the risks associated with oil, we have comprehensive containment systems that aim to eliminate pathways of escape.

Sources of pollution only pose a danger to the environment if there is a pathway (means of escape) leading to a receptor, such as a river. It is essential therefore that we manage potential pollution sources and pathways so that we can shield sensitive receptors such as soil, water, animals and the air we breathe.

Managing environmental incidents

We have a business-specific approach to environmental incident classification which ensures we are consistently classifying our environmental incidents from the least severe (good catches) to the most significant (Category 1).

In FY25, we recorded 8 Category 1 incidents and 33 Category 2 incidents (excluding SF_6 top-ups), up from the 1 Category 1 incident and 22 Category 2 incidents reported in FY24. The Category 1 incidents are described in detail in table 3.

We are committed to investigating and monitoring environmental incidents and near misses to identify emerging risk areas and ensure that we identify the lessons learned and prevent incidents from recurring. During the next financial year, it is also our intention to develop an environmental improvement plan.

Case study

Eliminating ‘forever chemicals’

PFAS, or per- and polyfluoroalkyl substances, are a group of human-made chemicals that are often referred to as ‘forever chemicals’ because they do not break down easily in the environment.

Before they were known to be harmful, PFAS chemicals were used in a wide range of applications, including firefighting foams. We identified the presence of PFAS in andheld fire extinguishers across our sites and we have replaced them with PFAS-free foam units. This is just one example of how we are eliminating potential sources of environmental harm.

100%

Percentage of fire extinguishers with PFAS we have upgraded

Maintaining high standards of oil containment and pollution management

We are actively working to prevent pollution that may result from our activities and continually improve our environmental management system (EMS) to protect the environment and reduce the risk of environmental harm.

NRAP 4

Preventing pollution

Insulating oils are contained within much of our transmission equipment including transformers, circuit breakers and fluid-filled cables. To reduce the risks associated with oil, we have comprehensive containment systems that aim to eliminate pathways of escape.

Sources of pollution only pose a danger to the environment if there is a pathway (means of escape) leading to a receptor, such as a river. It is essential therefore that we manage potential pollution sources and pathways so that we can shield sensitive receptors such as soil, water, animals and the air we breathe.

Managing environmental incidents

We have a business-specific approach to environmental incident classification which ensures we are consistently classifying our environmental incidents from the least severe (good catches) to the most significant (Category 1).

In FY25, we recorded 8 Category 1 incidents and 33 Category 2 incidents (excluding SF_6 top-ups), up from the 1 Category 1 incident and 22 Category 2 incidents reported in FY24. The Category 1 incidents are described in detail in table 3.

We are committed to investigating and monitoring environmental incidents and near misses to identify emerging risk areas and ensure that we identify the lessons learned and prevent incidents from recurring. During the next financial year, it is also our intention to develop an environmental improvement plan.

Case study

Eliminating ‘forever chemicals’

Table 4. Category 1 environmental incidents

Incident type	Number of incidents	Description
Fluid filled cable oil (FFC) releases	2	Loss of 2,000L of oil from a fluid-filled cable leak on the Watford South route. Located within Elstree substation boundary. Following repair and remedial works, there does not appear to be any significant residual hydrocarbon contamination, and a negligible risk of potential harm to the environment. Loss of 450L of oil from a fluid-filled cable leak on the Bramley Didcot route. The leak was located outside of National Grid ET land boundaries. Following repair and remedial works, there does not appear to be any significant residual hydrocarbon contamination, and a negligible risk of potential harm to the environment.
Administrative breaches	2	Failure to respond to an environmental information request within 20 working days relating to queries regarding the routing of the Norwich to Tilbury project. Failure to complete report of action to Natural England following the use of an individual bird licence on the 4TM route which runs through parts of Nottinghamshire and parts of Lincolnshire.
Oil loss	3	Drainage system compromised at St John’s Wood substation, leading to an unquantified oil release impacting an external watercourse. Drainage system compromised, leading to historical contamination flushed off site at Fleet substation, during flood event. An unquantified volume of oil lost from a series of fluid-filled cables struck by a third party in a sensitive area – Walham to Port Ham route.
Fire	1	North Hyde substation asset failure, leading to the release of transformer oil and fire fighting foams.

Nature positive

Set by the United Nations, Nature Positive by 2030 is one big global goal for nature.

Nature Positive is a global goal for nature. The goal includes halting nature loss from a 2020 baseline and reversing decline by 2030.

Biodiversity loss and climate change are twin crises that share many causes and solutions. Protecting and restoring nature and biodiversity helps in the fight against climate change.

15 LIFE ON LAND

We are committed to:

- Enhancing the environmental value of our non-operational land.
- Delivering environmental net gain (including biodiversity) associated with our construction activities.
- Better understanding the nature-based risks and dependencies within our supply chains.

These commitments help us to deliver a positive contribution towards to the wider global nature positive goal.

In this section

Our 2026 commitments

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

Progress against the implementation milestones is on track.

Progress is delayed but it is likely to be achievable before the end of the regulatory period.

How we performed over FY24 and FY25.

3.1 Increase environmental value of non-operational land by 10% against a natural capital and biodiversity baseline.

- **FY24**
- **FY25**

- **FY24** 3.2% increase achieved.
- **FY25** 3.3% increase achieved.

3.2 Deliver net gain of at least 10% in environmental value (including biodiversity) on all construction projects (including those delivered by third parties building on our land).

- **FY24**
- **FY25**

- **FY24** 100% of projects committed to deliver 10% net gain or greater.
- **FY25** 100% of projects committed to deliver 10% net gain or greater.

3.3 Work collaboratively with other transmission owners to agree a consistent approach to measure biodiversity impact and dependencies in the supply chain (inc. water).

- **FY24**
- **FY25**

- **FY24** Accenture appointed as a partner to develop a supply chain innovation project.
- **FY25** Supply chain innovation project complete.

3.4 Identify species-focused initiatives aligned with local priorities as part of construction delivery.

- **FY25**

- **FY25** Species-focused initiatives identified at three new construction sites.

Tackling the twin crises: biodiversity loss and climate change

Biodiversity loss and climate change are interdependent crises; climate change negatively impacts habitats and species, and biodiversity loss contributes to and exacerbates the impacts of climate change by degrading the natural assets that can remove CO_2 from our atmosphere. The impacts and solutions are inextricably linked, so it makes sense to tackle them both together.

NRAP 1

We are committed to tackling biodiversity loss and climate change in tandem by minimising the nature and carbon impacts of construction projects. We're proud of what we've achieved so far, having set science-based decarbonisation targets and shown industry leadership by requiring biodiversity enhancements for our construction projects in advance of legislation.

Looking forward, we're developing a joint roadmap towards net zero and nature positive construction. The roadmap sets out clear time-bound actions and commitments that will deliver co-benefits for both nature and climate as we continue to build the network of the future.

Did you know?

There are an estimated **8.7 million** species of plants and animals on earth, with only about 1.7 million identified.

The UK is one of **the most nature-depleted** countries in the world with a score of 53 per cent on the biodiversity intactness index.

The biggest global drivers of nature loss in the present day are land use change and resource extraction; however, in future years, climate change will start to be a more important factor.

Case study

Reducing climate and biodiversity impacts of our construction projects

We are building a new electricity substation, Uxbridge Moor, on land bordering our existing substation in Iver.

This is needed to connect several customers to our electricity network in the west of London. We are minimising and mitigating the climate and biodiversity impacts of this construction project in line with our Environmental Action Plan commitments.

NRAP 1

As part of our BNG commitment, we'll be enhancing the environment surrounding the new substation by creating a range of new habitats, including wet woodland and reedbeds. We'll also be improving the condition of the Alderbourne river, which runs adjacent to the new substation and through our existing substation at Iver.

By using fencing to reduce livestock encroachment from the neighbouring grazed field, we will improve the vegetation diversity of the riverbank. Lastly, we'll install an attenuation pond, designed to allow water levels to fluctuate naturally to prevent flooding. This work will mean that we achieve a BNG of 15 per cent or more.

Minimising impact of construction and delivering net gains for nature

Charlie Roberts
National Grid ET's Principal Ecologist on BNG

What is BNG?

BNG made law as part of the Environment Act amendment 2021, requires all developments in England to leave habitats in a measurably better state than prior to development. Applying BNG can mean improving the existing habitat onsite or creating new habitats, either on the site of the development or offsite.

One of the benefits of the BNG legislation is that habitats must be managed for 30 years after their creation. This gives habitats time to establish, thereby ensuring the longevity of the improvement.

10%
We aim to deliver net gain of at least 10 per cent

What is NBB?

Net Benefit for Biodiversity (NBB) is the environmental policy in Wales under the Environment (Wales) Act 2016 and is defined as the concept that development should leave biodiversity and ecosystems in a better state than before, through securing long term and measurable benefits.

Why is BNG important?

The UK is the one of the most nature-depleted countries in the world. BNG is a mechanism to direct investment into nature recovery which therefore addresses the finance gap needed to meet the UK biodiversity targets. We also know that biodiversity loss and climate change are closely linked global challenges. Improving nature has significant benefits for climate resilience by helping regulate extremes and provide natural cooling. Ecosystems services act to deliver benefits for nature, climate and people.

What is National Grid ET's role?

We have an important job to ensure that as we upgrade our networks, we do so in a way that will avoid as much environmental harm as possible and deliver a positive outcome for biodiversity. As part of our T2 Environmental Action Plan, we aim to deliver net gain of at least 10 per cent or greater in environmental value (including biodiversity) on all construction projects in both England and Wales. We ensure we achieve NBB on all projects in Wales first, before moving forward with using the BNG methodology as well.

Minimising impact of construction and delivering net gains for nature

How do we apply the biodiversity principles to our construction projects?

NRAP 2

We consider BNG early in the optioneering phase of a construction project and aim to avoid developments where there are habitats of importance, for example, in ancient woodland, sites of special scientific interest (SSSIs) or local wildlife sites (LWS). We continue these considerations into the design phase to try and minimise any negative impacts to biodiversity through design.

In the development phase, we carry out an initial habitat assessment to record the baseline biodiversity value of the site in line with BNG and NBB guidance and use this assessment during consultations with key stakeholders to identify solutions.

We calculate the impacts of our construction projects using the Department for Environment, Food and Rural Affairs' (DEFRA) biodiversity metric calculator*. This industry standard tool allows us to understand and quantify the impact and then inform the design of ecological mitigation and enhancement plans for each project. We also use natural capital tools for some of our projects to understand wider sustainability benefits.

We apply these steps to both Town and Country Planning Act 1990 projects and Permitted Development projects where BNG is not mandatory. We apply the above steps to all our construction projects and we ensure long-term management and monitoring is in place for both types of projects as well, to provide measurable and long-term gains.

*For more information, please see our methodology annex.

What progress have we made so far?

We're proud of the progress that we've made so far. In FY25, all 21 of our in-scope construction projects which have been sanctioned have committed to deliver a 10 per cent net gain, with 12 committed to gains of 15 per cent or above. These commitments will be delivered through strategic partnerships to create improvements where they are needed most.

What's next?

In FY26, our target is to continue driving projects to achieve 15 per cent net gain in environmental value (including biodiversity).

Collaboration and partnerships are key to the effective delivery of our net gain commitments. Nature and climate are intrinsically linked and as a business we must coordinate actions to address both global crises. Our Nature and Carbon teams have worked with UK Procurement to develop the Carbon and Nature Framework. This new framework brings together a wide range of organisations across 3 key areas, and includes national charities, joint ventures and commercial organisations that can help us to achieve our carbon and biodiversity commitments. We are excited to work with these partners to contribute to nature and climate recovery as well as delivering local community benefits wherever possible.

Table 5. Delivering environmental net gain

Project name	Baseline units	Committed % net change
Bradford West	1.32	15.00
Cellarhead	1.18	10.00
Cilfynydd	9.08	16.88
Creyke Beck Birkhill Wood	23.71	10.00
Creyke Beck Wanlass Beck	54.21	10.00
Didcot	7.10	15.00
Elstree B (Letchmore Heath)	94.40	15.00
Ferrybridge B SSE BESS	2.68	15.00
Fleet	4.89	15.00
Grain to Tilbury (TKRE)	80.09	15.10
Laleham	0.95	15.00
Margam	157.40	10.00
Melksham CC Grid Park	0.25	28.00
North London reinforcements (HWUP)	328.91	10.00
Pitsmoor	4.64	10.00
Rainhill	-	10.00
Ryehouse	19.21	15.00
Southshields Smartwires	31.99	15.00
Wymondley	0.38	15.00

Increasing the environmental value of our non-operational land

The UK is one of the most nature-depleted countries on the earth. We can't afford to simply protect the little we have left; we must also seek out opportunities to create new habitat and improve species diversity and abundance. At National Grid ET we are proactively creating new habitat on our land, as well as improving existing habitats through our environmental value initiative, which commits us to improving the value of our non-operational land by at least 10% by 2026.

NRAP 5

We measure environmental value via a natural capital tool to quantify ecosystem service change and track our performance. The tool is approved by our regulator, Ofgem. For more information, please see our methodology annex.

To achieve our commitment and deliver wider social value, we're focusing on connecting people to the environment and achieving habitat enhancement through strategic partnerships. We are partnering with local community groups and specialist environmental organisations, such as The Conservation Volunteers (TCV), Lancashire Wildlife Trust, Field Studies Council, Groundwork South and Essex Wildlife Trust.

1,800
Number of hectares of natural habitat we own and manage

As well as working closely with local communities to deliver improvement to biodiversity, our partners also provide educational activities. For example, at our Capenhurst site, TCV are introducing a community volunteer programme to convert existing grassland into wildflower meadows, alongside woodland management. In addition, they will be delivering community participation days, including school visits, and bioblitz surveys with Cheshire's local biodiversity record group (RECORD). These findings will be reported to the local record centre.

Progressing towards 2026

Since FY21, we've achieved a 11.14 per cent improvement in the environmental value of our non-operational land. In FY25 alone, a 3.27 per cent improvement was achieved. This equates to over £9.2 million in natural capital uplift, representing an average of 8,142 additional recreational and environmental education visits per annum and approximately 15 hectares of habitat now managed for biodiversity.

Partnering to restore ecosystems

In FY25, we were proud to introduce two new strategic partnership agreements and expand eight existing agreements to deliver more environmental value. One new strategic partnership agreement for FY25 is focused on restoring poor quality woodland. This is being achieved through coppicing and understory planting, removing non-native species and improving the species diversity.

Case study

Improving the environmental value of our non-operational land in West Thurrock

NRAP 2

We own 4.8 hectares of non-operational land in West Thurrock, Essex, which includes heathland, grassland, and reedbeds. This site supports various bird species, such as snipe and reed warblers, as well as plants like sea club-rush and sea aster. It is also one of only two locations in the UK where the distinguished jumping spider is found.

In FY25, we partnered with the Essex Wildlife Trust to enhance the habitat and improve the land's environmental value.

Essex Wildlife Trust conducted an ecological survey of the site and identified several habitat improvement opportunities, including managing invasive species, installing bird and bat boxes, and protecting existing habitats by removing scrub from the reedbed. These initiatives are part of a 10-year partnership agreement, which also includes guided walks and expert-led habitat management sessions for the local community.

"Including this piece of land under EWT management will provide significant benefits to biodiversity and to the local community. The addition not only increases the extent of area managed for wildlife, but it fills in a gap and provides the ecological connectivity needed for rare and specialist species such as the distinguished jumping spider to thrive."

Kim Wallis
Head of Nature Reserves and natural capital at the Essex Wildlife Trust

Biodiversity and resilience in Wales

The following section provides an overview of how National Grid ET is meeting our Section 6 Biodiversity and Resilience of Ecosystems Duty under the Environment (Wales) Act 2016. Throughout this report, we signpost to key actions that we have taken that align to the six key objectives detailed within the Welsh Government's Nature Recovery Action Plan (NRAP). These are indicated by the corresponding NRAP objective number.

Our work in Wales

In Wales we act as a statutory undertaker, we own and manage electricity assets and are responsible for managing the energy infrastructure and the non-operational land holdings under our direct control and ownership. We are investing in our network, upgrading our infrastructure and facilitating connections to new sources of clean and renewable energy across Wales. We are committed to delivering these essential works on both our existing sites and in new locations in ways that avoid and minimise environmental impact, preserve biodiversity and the natural environment and foster collaboration and partnership with others.

NRAP 1

Embedding biodiversity

Our construction work interacts with biodiversity and ecosystems across Wales. We consider the natural environment in our key investment and project management processes which ensures environmental sustainability is firmly on the agenda. We are also focused on having an engaged workforce and we achieve this through compulsory training modules for many roles, including those with a project management focus.

Case study

Cilfynydd bracken management

The site at Cilfynydd has a number of fields within National Grid land ownership and some of them are being colonised with bracken which is taking over the grassland on site.

Bracken is a species of fern found across Wales. Due to the large-scale loss of woodland and changes in land management, its abundance is now a recognised problem across many areas of Wales.

In order to restore the grassland, the bracken requires management first and this will be done through cutting and rolling then removing it from the site. This will be done several times a year to expose the native grassland underneath.

Due to the presence of species rich neutral grassland surrounding the site, it is likely that the areas subject to bracken control will re-seed themselves during the course of its management.

NRAP objectives

NRAP 1

NRAP objective 1
Engage and support participation and understanding to embed biodiversity throughout decision making at all levels.

NRAP 4

NRAP objective 4
Tackle key pressures on species and habitats.

NRAP 2

NRAP objective 2
Safeguard species and habitats of principal importance and improve their management.

NRAP 5

NRAP objective 5
Improve our evidence, understanding and monitoring.

NRAP 3

NRAP objective 3
Increase the resilience of our natural environment by restoring degraded habitats.

NRAP 6

NRAP objective 6
Put in place a framework of governance and support for delivery.

Measuring biodiversity impacts and dependencies in the supply chain

The Kunming Montreal Global Biodiversity Framework agreed at COP15 sets out 4 goals for 2050 and 23 targets for 2030. Target 15 requires businesses to understand, disclose and take active steps to reduce the negative impacts to biodiversity of their operations and supply chain.

Historically, we've focused on minimising the impact of our construction activities and operations on biodiversity. In FY25, we initiated an innovation project in collaboration with the other transmission owners to gain a better understanding of the upstream biodiversity risks and dependencies within our sector supply chain, with a view to identify areas of commonality and find opportunities to work together to reduce our collective impacts on biodiversity.

As a sector, we procure transformers, cables and conductors to upgrade our networks and deliver on our commitments to net zero. As part of the innovation project, we collected procurement data from across the sector and mapped the most material purchase categories based on spend and environmental impact.

Key suppliers for our material procurement categories were identified and assessed to identify potential nature impacts and to estimate probable goods-sourcing countries. For the countries identified, country-level datasets were then used to gain a deeper understanding of the state of nature and the impacts occurring in our supply chains. This new intelligence will help us to prioritise our areas of focus for future nature initiatives.

We are reviewing the findings and will develop plans to integrate the tools into business processes. We will also work together to develop an engagement plan for key priority suppliers with the most significant nature impacts.

"This project has enabled us to gain a better understanding of the high-level upstream nature and biodiversity impacts, risks and dependencies of the products and services we procure as a sector. Together with the other transmission owners and supply chain partners we will build on this project to improve the granularity and transparency in this area in the future."

Chris Plester
Net Gain Technical Lead

Target 15
requires us to take active steps to reduce the negative impacts to biodiversity

Reducing the visual impact of our assets

We want to play our part in conserving and enhancing the natural beauty of the English and Welsh landscapes.

Existing transmission lines

We consider the visual impact of our existing infrastructure in National Parks and National Landscapes (formerly Areas of Outstanding Natural Beauty, AONBs) through the Visual Impact Provision (VIP) project.

The project is making use of a £465 million provision by Ofgem to carry out work that reduces the impact of existing transmission lines in English and Welsh National Landscapes and National Parks. The most important task for us is to use this provision to achieve the maximum enhancement to our nation's landscapes while avoiding unacceptable environmental impacts.

In 2014, the Stakeholder Advisory Group was established to guide key decision making on the VIP projects, identify potential projects, and advise on the most effective ways to engage with local stakeholders. The group is chaired by leading environmentalist Chris Baines and includes the energy regulator, Ofgem, as well as National Grid and several organisations dedicated to conserving and enhancing the landscape.

£465m

Amount being used to reduce the impact of infrastructure

Our main VIP projects:

- Cotswolds VIP
- Dorset VIP
- Snowdonia VIP
- North Wessex Downs VIP
- Landscape Enhancement Initiative

Click on the links to find out more information.

Landscape Enhancement

The Landscape Enhancement Initiative (LEI) is a grant scheme and important component part of National Grid's Visual Impact Provision. Projects delivered via the LEI help to reducing the visual impact of National Grid's existing electricity transmission lines in England and Wales through delivery of non-technical actions and landscape interventions.

Over the last 12 months, we have awarded grants to 8 new projects across a range of locations and organisations. These projects will deliver a huge variety of actions that will deliver wider benefits for nature and people. Below are some examples:

The Breamore rail line – New Forest National Park Authority

The project will improve a two-mile disused rail line that runs along the western border of the National Park boundary, just north of the town of Fordingbridge. The location forms part of the Upper Avon Valley landscape character area, an open river floodplain landscape enclosed by wooded valley sides. It is a high-quality landscape containing a sense of tranquillity which is part of the special qualities of the National Park.

Wye Valley Magnificent Meadows, Tremendous Tree and Wonderful Wetlands – Wye Valley National Landscape

The project is working with eight landowners across nine land holdings, covering 460ha of land. Project actions include creations of larger areas of species-rich grassland, to create meadows, new ponds, leaky dams and wetland areas, new woodland and restoration of floodplain meadow.

New assets

As the high voltage electricity network owner for England and Wales, we have recently seen a significant increase in connection applications. This has meant greater numbers of required network reinforcements including new assets potentially planned across our network to accommodate connections. When deciding on the best location for a new asset, we seek to mitigate its visual impact by using the natural features of the landscape. We also conduct extensive species studies on any land identified, and ensure the habitats are well understood, accounting for any protected characteristics and assessing mitigating measures like providing alternative habitats.

Table 6. Visual amenity

Visual amenity aspects	FY22	FY23	FY24	FY25
Removal of overhead lines (km)	0	12	0	0
Non-technical mitigation projects started (#)	11	11	5	8
Non-technical mitigation projects (£m)	1.2	1.4	2.5	1.6

Leadership for change

We strive to be an environmental leader in the industry.

We strive to be an environmental leader in the industry. We are taking proactive steps to drive positive change and lead by example. Our leaders and employees are at the forefront of this and focus on:

- Taking bold steps to reduce SF_6 emissions.
- Maintaining high standards of environmental management.
- Working collaboratively with transmission owners.
- Upskilling and training.
- Partnering with expert organisations who can support us to deliver on our commitments.

In this section

Our 2026 commitments

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

Progress against the implementation milestones is on track.

Progress is delayed but it is likely to be achievable before the end of the regulatory period.

How we performed over FY24 and FY25

4.1 Have an engaged workforce on environmental issues that lead by example.

FY24
FY25

- **FY24** 78% employee engagement score on responsible business.
- **FY25** We issued a staff survey to assess how engaged our staff are on sustainability.

4.2 Take bold steps to tackle our SF_6 emissions and stimulate the market to more rapidly meet our stakeholders' needs.

FY24
FY25

- **FY24** Sites will now need to apply for a technical deviation to use SF_6 if an alternative isn't available. Six technical deviations for SF_6 use were accepted in FY24 due to a lack of alternative solutions.
- **FY25** Five deviation requests to use SF_6 were approved in FY25 due to a lack of alternative solutions.

4.3 Work collaboratively with the other transmission owners to find common solutions and develop a consistent approach to sustainability issues.

FY24
FY25

- **FY24** We have created a quarterly Sustainability Forum with SSEN and SPEN to work together on common sustainability goals.
- **FY25** We meet quarterly with SSEN and SPEN to work together on achieving common goals.

4.4 Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups.

FY24
FY25

- **FY24** Environmental leadership for the energy industry demonstrated by our contribution to, and shaping discussions in, external working groups/events.
- **FY25** We're active in several external working groups and shape discussion at events such as COP29.

4.5 Maintain a certified environmental management system.

FY24
FY25

- **FY24** We developed and implemented an Integrated Management System which includes ISO14001.
- **FY25** We maintained our ISO14001 certification.

Environmental leaders

Our leadership team and employees arethe reason that National Grid ET is an environmental leader in the industry. Our leadership take responsibility for environmental performance and our employees are empowered to drive positive change in the business.

In FY25, we gathered feedback from over 100 employees to measure staff engagement on sustainability. The results show that our staff feel proud to work at National Grid ET and to be part of the energy transition, and understand how sustainability is relevant to their role within the business. The majority also think National Grid ET's leadership team are committed to sustainability. An area we've identified for improvement is how easily employees can find information on our sustainability targets. This is a theme we will explore further in FY26.

As environmental leaders, we prioritise:

- collaboration to solve complex environmental issues
- engagement with our stakeholders
- collaboration with the other Transmission Owners to find common solutions
- shaping the discussions in external working groups
- upskilling our workforce on environmental topics.

Sustainability Leadership Alliance
Our employees founded the Sustainability Leadership Alliance to come together and learn, communicate and collaborate on all thing's sustainability. As part of this group, our employees:

- **drive sustainable change internally**
- **promote sustainability initiatives**
- **sustainability education**
- **cultivate culture of volunteerism.**

Environmental leaders

Collaborating with transmission owners
We work closely with Scottish & Southern Electricity Networks (SSEN) and Scottish Power Electricity Networks (SPEN) to share best practice, helping to drive performance and further sustainability across the sector.

Together with SPEN and SSEN, we joined forces to create the Transmission Owner Sustainability Forum. Every four months, we come together to work on achieving common sustainability goals. Within the forum, we have established subject specific working groups:

- Supply chain sustainability
- Nature
- Data
- Carbon
- RIIO-T3

Participating in industry expert organisations
Part of being an environmental leader means engaging with key stakeholders on environmental topics to gain valuable insights, identify risks and opportunities, and make informed decisions that aim to minimise environmental impacts.

We appreciate the importance of collaboration and partnerships for delivering our environmental sustainability agenda. That is why we are long-term members of several organisations:

- Business in the Community (BITC)
- Contaminated Land Applications in Real Environment (CL:AIRE)
- Natural capital taskforce
- Institute of Sustainability and Environmental Professionals (ISEP)
- Supply Chain Sustainability School (SCSS)
- Valuing Nature Network
- Energy Networks Association (ENA)
- Roundtable for Europe's Energy Future
- Carbon Capture and Storage Association
- Corporate Leaders Group
- Zemo Partnership
- Infrastructure Client Group (ICG) Carbon Taskforce
- Institution of Engineering and Technology (IET)
- UK Business Biodiversity Forum
- Nature North
- Green Northern Connections
- Linear Nature Networks
- Waste Facilities Audit Association (WFAA)
- The Electric Power Research Institute (EPRI).

Case study

National Grid at COP29

In FY25, representatives from National Grid participated in COP29, the United Nations Climate Change Conference held in Baku, Azerbaijan to demonstrate our continued commitment to, and leadership of, the clean energy transition.

Our main objectives at COP29 were to:

- demonstrate the crucial role of grids in enabling the wider transition to a green economy
- show where progress has been made in the transition and where new technology and ideas are being used
- learn from others to inform our position and strategy on risk and resilience, supply chains, innovation, corporate sustainability and nature
- further our strong relationships with policymakers, other corporates, NGOs and thinktanks to enable cross-sector collaboration and action to achieve a clean, fair, affordable future.

We participated in several round table discussions and panel events, focusing largely on the clean energy transition and the increasingly important role that grids play.

Environmental leaders

Training our workforce

We provide all employees with access to an array of internally developed training courses on a range of environmental issues such as carbon management, waste management, net gain and substation oil loss. We set mandatory courses for staff based on their role within the business, and courses are available to all colleagues if they wish to develop in those areas.

We also host internal interactive webinars on environmental topics and issues, where employees are invited to take part in discussions, ask subject matter experts questions, and share best practice.

During FY26, we have implemented improvements in the way that we assign, track and monitor environmental training and competence so, as our business grows and the environmental landscape evolves, we know that our employees are trained to the most up-to-date standards and have access to up-to-date information and resources.

We have developed further training modules, including HS261W Sustainable Construction, as well as a range of technical guides, tools and engagement sessions that support and complement our environmental training programmes.

Training completion rates

Delivering our environmental future	86% completion rate
Delivering net zero – carbon management	77% completion rate
Delivering our net gain commitments	61% completion rate
Waste management	87% completion rate
Substation oil loss	92% completion rate

Maintaining our high standards of environmental management

We have maintained an ISO14001 certified Environmental Management System (EMS) for many years. Our EMS is integrated with our other ISO certified management systems ensuring collaboration and efficiency.

Our Integrated Management System includes ISO14001:2015 for environmental management, ISO9001:2015 for quality management, and ISO45001:2018 for occupational safety and health management. In FY25, we successfully passed our ISO14001 surveillance audits.

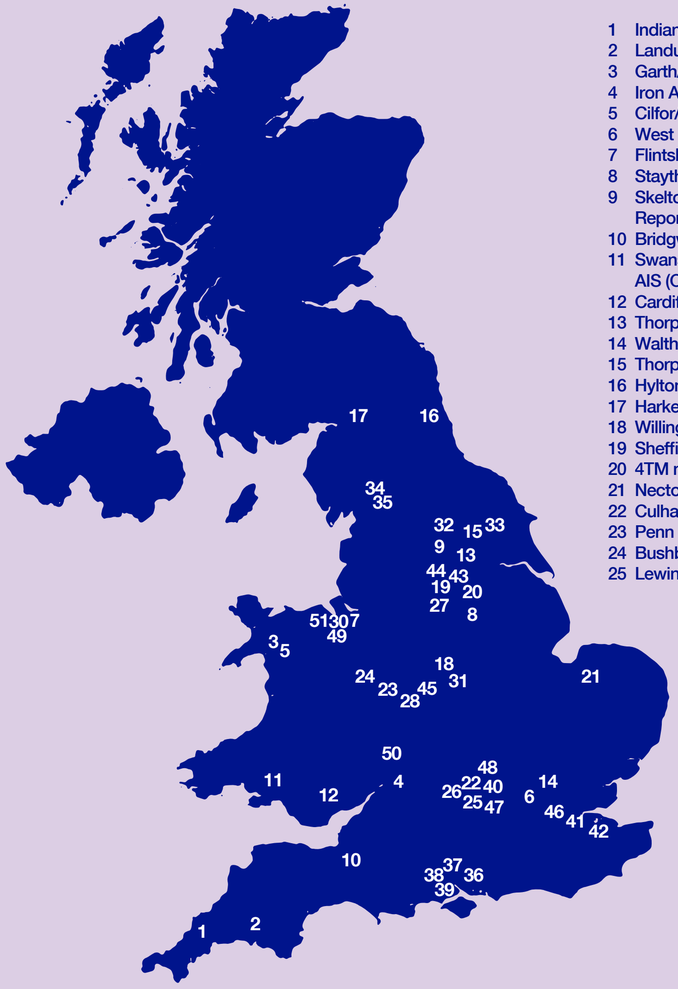
Engaging with our sites to maintain high standards

Our business environmental advisors regularly visit our operational sites to ensure that we maintain our high standards of environmental management year-round and to develop effective relationships between our site-based operational, construction and environmental colleagues. In FY25, our Environment & Sustainability team conducted a total of 51 site visits across England and Wales.

By building these relationship networks, we manage our environmental risk better by ensuring support is available where needed, and our operational and construction colleagues know who to ask when specialist environmental advice is required.

Our operational teams also carry out routine environmental checks to ensure any controls in place are effective. Planned environmental maintenance of our oil containment systems ensure a further line of defence.

Figure 10. Our environmental engagement visits in FY25



1 Indian Queens
2 Landulph
3 Garth/Snowdonia VIP
4 Iron Acton
5 Cilfor/ Snowdonia VIP
6 West Ham
7 Flintshire Bridge HVDC
8 Staythorpe
9 Skelton Grange OHL Reporting centre
10 Bridgwater
11 Swansea North 400kV AIS (OHL)
12 Cardiff East
13 Thorpe Marsh Refurb Centre
14 Waltham Cross
15 Thorpe Marsh
16 Hylton Castle
17 Harker (ID&D)
18 Willington
19 Sheffield City Substation
20 4TM new OHL
21 Necton construction
22 Culham Jet
23 Penn
24 Bushbury
25 Lewingdon Wood CSE
26 Mouslford Down CSE
27 Sheffield city substation
28 Feckenham
29 North Wessex Downs
30 4ZB Route nr Connahs Quay (OHL)
31 Enderby refurbishment centre
32 Eggborough
33 Thornton
34 Penwortham
35 Hutton
36 Lovedean Substation
37 Nursling Substion
38 Marchwood Substation
39 Fawley Substation
40 Goring Gap – Cable 2B Oil Leak
41 Grain Substation
42 Kingsnorth
43 Templeborough
44 Pitsmoor-Wincobank-Templeborough 275kV Cable Replacement Scheme
45 Berkswell Substation
46 Littlebrook demolition
47 Didcot Cable Joint Bay Fix
48 Elstree – Cable Remedial
49 Legacy Substation
50 Walham Cable Replacement
51 Isorsaf Legacy Substation

Taking bold steps to tackle our SF_6 emissions

To reduce our use of SF_6 and prevent emissions, we adopt SF_6-free technology as soon as it becomes available and have set up an ongoing programme of leak repair and mitigation for older SF_6-filled equipment. Where we do still need to use SF_6 (such as for maintenance), we reuse SF_6 from decommissioned equipment wherever possible.

In 2019, we introduced a policy to install alternatives to SF_6-filled equipment where it is feasible to do so. In FY25, 5 technical deviations for SF_6 were accepted due to a lack of suitable alternatives.

In 2024, we stepped up our approach, updating our policy so that the procurement of virgin SF_6 is no longer acceptable unless reclaimed (recycled) SF_6 is unavailable. This new approach has avoided purchasing of 5,000 kg of virgin SF_6 in FY25.

Case study

Delivering an SF_6-free electricity system

Launched in December 2024, National Grid ET is leading on a project to develop an economic, efficient and holistic Management Strategy for SF_6, with the aim of removal of SF_6 from the UK electricity system.

Funded by Ofgem's Strategic Innovation Fund and together with project partners, the teams will focus on:

- developing and deploying high accuracy leakage detection techniques
- developing leakage prediction tools and techniques to better inform our emission reduction and inventory removal strategies
- assessing the operational stability of alternative non-SF_6 gas-mixtures already in-service on the UKTO networks
- developing industrial-scale, energy-efficient disposal of redundant SF_6.

The strategy will also analyse the Regulatory Frameworks that govern the use of SF_6 and lower-carbon alternative gases and propose changes to support the transition to an SF_6-free electricity system.

Project partners

Scottish & Southern Electricity Networks TRANSMISSION
SP Energy Networks
MANCHESTER 1824 The University of Manchester
DNV
WIKA
DILO

Partnering to achieve our carbon and nature commitments

Case study

Launching the Carbon and Nature Framework

In response to the need to scale up our investment into climate and nature to support the unprecedented increase in new infrastructure we have set up a Carbon and Nature Framework.

Whilst we maintain a ‘reduction first’ approach, it will not be possible to reduce our emissions completely to zero, due to, for example, the high carbon intensity of some of the construction materials we use. This means that we’ll need to compensate our residual emissions.

NRAP 6

Throughout FY25, we developed a Procurement Framework to support our carbon and nature ambitions. This new framework will ensure that we invest in high quality, carbon compensation projects and high-integrity offsite BNG initiatives. In addition, we also look to onboard organisations which develop projects that can deliver nature-based solutions with quantifiable carbon and/or nature benefits that do not currently align to an externally certified carbon or BNG verification. All these deliverables will be rich in delivering wider benefits and support the UK’s developing carbon and nature markets.

“Delivering on our carbon compensatory and BNG targets requires a transparent and innovative approach with differing delivery methods, over a range of timelines. Working with the right organisations and/or projects will be essential in delivering on these targets. Our new framework will allow us to do just that.”

William Joy-Camacho
Sustainability Specialist

Looking ahead

In this section

Responding to a changing world

Changes to our commitments in FY25
Our success depends on understanding and responding to the changing world in which we operate.

To ensure that our targets are ambitious and are set in the context of any changes to the external and internal landscapes, we carry out an annual review of our Environmental Action Plan.

As a result of this review, we added two new commitments for FY25:

- Identify species-focused initiatives aligned with local priorities as part of construction delivery
- Work collaboratively with the other transmission owners to find common solutions and develop a consistent approach to sustainability issues

We also achieved and retired three commitments:

- Purchase 100% of electricity we use from renewables
- Work collaboratively with the other transmission owners to develop and pilot a common and robust methodology for assessing natural capital Impacts and opportunities (associated with Electricity Transmission activities)
- Work collaboratively with the other transmission owners to develop a consistent approach to capital carbon management

Looking ahead to FY26

As we head into the last year of the RIIO-T2 regulatory period, we're focused on achieving the targets that we set out at the beginning of FY21. We remain fully committed to achieving our targets and recognise the huge responsibility that we have as a business to minimise and mitigate our environmental impacts.

We're also building the foundations to deliver our RIIO-T3 Business Plan. The commitments that we've set out in our RIIO-T3 Environmental Action Plan will support the energy transition in a way that achieves sustainable operations and contributes to a nature positive future, whilst being respectful of planetary boundaries. Our plan builds on the step change we have made during the RIIO-T2 period and the foundations of our ISO14001 accredited environmental management system, and responds to the accelerating global environmental agenda, UK net zero targets, legislative requirements and stakeholder expectations.

There are several dependencies to achieving our targets

Meeting our targets will require a combination of the actions we take ourselves, along with the necessary policy and regulatory support.

Emissions reductions are dependent on a variety of technological factors. Furthermore, the landscape has changed since we first set our targets, with the volume of our planned infrastructure work to support the decarbonisation of the electricity sector increasing significantly.

Finding more sustainable alternatives or implementing low-carbon construction methods can be challenging due to limited availability, higher costs and potential regulatory barriers. We work closely with our regulator and engage proactively with technology providers and our supply chain to reduce some of these barriers.

Performance tables

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

- **R** Progress against milestones is at significant risk and highly likely to be missed
- **A** Progress is delayed but likely to be achievable before the end of the regulatory period
- **G** Progress against the implementation milestones is on track

Net zero

EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update
			FY22	FY23	FY24	FY25	FY26		
Achieve net zero for our Scope 1 and 2 emissions by 2050, with interim targets of: 34% by 2026 and 50% by 2030.	% reduction in tCO_2e.	Reduction in Scope 1 and 2 emissions (excluding losses) in line with a 1.5°C trajectory.	-6.8%	-13.60%	-20.40%	-27.20%	-34%	G	30% reduction in our business carbon footprint from a FY19 baseline (excluding losses).
Reduce SF_6 emissions from our operations by 50% by 2030 (realistic SF_6 abatement pathway – SF_6 kg) from a FY19 baseline.	SF_6 leakage (kg).	Reduction in SF_6 leakage from our operations.	10,900 kg	9,759 kg	9,108 kg	8,458 kg	7,997 kg	G	33% reduction in SF_6 emissions from a FY19 baseline.
Create a substation energy efficiency programme.	Programme with annual milestones established.	Achievement of optimal carbon savings and return on investment.	Set up Programme Strategy.	Obtain Energy Performance Certificates for 50 nominated sites and utilise the recommendations to provide a plan.	Energy audits to be completed at 130 sites.	Energy efficiency pilot to be implemented at 2 sites.	Energy efficiency programme established for T3.	A	Energy surveys completed at 130 sites.
Focus on an efficiency-first approach to decrease the carbon emissions from our office energy use by 20% from a FY20 baseline.	% reduction in CO_2 from energy use.	Reduction in carbon emissions from energy use in our offices.	-4%	-8%	-12%	-16%	-20%	G	We have achieved a 17% energy use reduction.
Replace 60% of our fleet with ZEVs.	% of vehicles replaced with ZEVs.	Reduction in carbon emissions from operational travel.	+10%	+19%	+27%	+43%	+60%	G	45% of our fleet was replaced with ZEVs.
Reduce carbon emissions for our business transport by 10% on 2013-2020 averages.	% reduction in tCO_2e.	Reduction in carbon emissions from business travel.	-2%	-4%	-6%	-8%	-10%	G	9% reduction in carbon emissions from business travel from 2013-2020 averages.
Deliver carbon-neutral construction.	Net zero construction is achieved by emissions reductions and offsetting.	Reduction in capital carbon from our construction projects.	10% year-on-year reduction.	10% year-on-year reduction.	Internal gap analysis against PAS2080 standard.	Implement recommendations from gap analysis.	PAS2080 certification achieved and compensated for.	G	FY25 PAS20280 certification underway.
Encourage 75% of National Grid's top 250 suppliers (by category/ spend) to have carbon reduction targets and for 80% (by emissions) of these to have science-based targets (SBT).	% of suppliers with carbon reduction targets.	Reduction in carbon emissions from our supply chain.	+70%	+72%	+73%	+74%	+75%	A	67% of UK-allocated suppliers (within top 250 by category/ spend) engaged through CDP and 57% of them have science-based carbon reduction targets.
Install 1,430 AC electric vehicle (EV) charging bays and 40 DC EV chargers on Electricity Transmission's (ET) operational estate in support of the commercial fleet electrification programme.	# of EV chargers installed.	Reduction in carbon emissions from operational travel.	35	70	70	70	Target achieved	G	38 DC chargers and 1,348 ac charging bays installed.
All band A-C company cars to be ZEVs.	% of band A-C company cars that are EVs.	Reduction in carbon emissions from operational travel.	35%	58%	73%	93%	100%	G	97% of band A-C manager company cars are ZEVs.
Phase out the use of diesel generators where commercially and technically viable.	% reduction in diesel generator use.	Reduction in carbon emissions from diesel generators.	N/A	Alternative fuels to diesel trials.	Diesel-free trials and diesel usage data collection.		Update policy to remove the use of diesel where there is a commercial alternative.	G	In FY25 23% of our operational fuel use was HVO, an increase from 7% in FY24

Performance tables

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

- **R** Progress against milestones is at significant risk and highly likely to be missed
- **A** Progress is delayed but likely to be achievable before the end of the regulatory period
- **G** Progress against the implementation milestones is on track

Sustainable use of resources

EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update
			FY22	FY23	FY24	FY25	FY26		
Achieve zero waste to landfill across our construction projects.	% diverted from landfill.	Zero waste to landfill in our construction projects.	Achieve 100% diverted from landfill.	Maintain 100% diverted from landfill.				A	99.4% of construction waste diverted from landfill compared to a FY19 baseline.
All construction projects to report on waste avoidance opportunities.	% reduction in waste intensity (tonnes of waste/£M).	Reduction in waste intensity in construction projects.	Baselining and set target for rest of T2.	Set target for T2 as not delivered in FY22.	Introduce a waste avoidance opportunity.	Waste avoidance opportunities identified.		A	Four construction projects identified waste avoidance opportunities.
Maintain an 80% recycling rate in construction.	% increase in recycling and composting rates.	Increase in waste recycling in construction projects.	Baselining and set target for rest of T2.	Set target for T2 as not delivered in FY22.	Construction recycling target set as 80%.	Maintain 80% recycling rate.		G	84.6% recycling rate in construction.
Increase our operational recycling rates from 45% to 60%.	% increase in recycling rates.	Increase in waste recycling across our operations.	48%	50%	53%	57%	60%	G	82.8% operational recycling rate.
Increase our office recycling rates from 46% to 60%.	% increase in recycling rates.	Increase in waste recycling across our operations.	48%	50%	53%	57%	60%	A	54% office recycling rate.
Reduce the waste tonnage (from a FY20 baseline) at our offices by 20% and reduce water use (from a FY20 baseline) at our offices by 20%.	% reduction in waste tonnage & % reduction in water use.	Reduction in waste tonnage and water use at our office.	-2%	-4%	-6%	-8%	-20%	G	16% in waste tonnage at our offices from a FY20 baseline. 34% in water use at our offices from a FY20 baseline.
Pilot and implement circular economy principles by aligning our business to internationally recognised standards, e.g. BS8001 – Circular Economy Standard.	Alignment to BS8001 Circular Economy Standard.	Minimisation of waste and carbon.	Gap analysis against standard development.	Socialise outcomes of gap analysis.	Socialise outcomes of gap analysis and agree ambition and next steps.	Implement SF_6 circularity pilot.	TBC	G	By the end of T3, we want to achieve the 'engaged' level in BS8001 circular economy standard.
Align our Procurement Strategy to internationally recognised standards e.g. ISO20400 Sustainable Sourcing Standard.	Alignment to ISO20400 standard – Sustainable Procurement Guidance Standard.	Increase in sustainable sourcing – sustainable use of materials.	Gap analysis carried out against standard and carry out process improvements against agreed action plan.					G	Revamped our three-year strategy to further empower our Procurement team to embed sustainability into sourcing activities.
Maintain our high standards of oil containment and pollution management.	We actively work to prevent pollution that may result from our activities.	Visit 50 ET sites to undertake environmental support visits.	Visit 50 sites to undertake environmental support visits.					G	51 environmental engagement visits were carried out.

Performance tables

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

- R Progress against milestones is at significant risk and highly likely to be missed
- A Progress is delayed but likely to be achievable before the end of the regulatory period
- G Progress against the implementation milestones is on track

Nature positive

EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update
			FY22	FY23	FY24	FY25	FY26		
Increase environmental value of non-operational land by 10% against a natural capital/biodiversity baseline.	% increase in environmental value.	Land is managed in ways that protect and enhance the natural environment whilst also creating value for stakeholders and local communities.	+1%	+3.15%	+5.50%	+7.75%	+10%	G	+11.14% increase in environmental value of non-operational land achieved.
Deliver net gain of at least 10% or greater in environmental value (including biodiversity) on all construction projects (including those delivered by third parties building on our land).	% of projects delivering net gain.	Biodiversity enhancements that contribute towards local, regional and national objectives for nature conservation.	100% of projects meet 10% net gain.	100% of projects meet 10% net gain.	100% of projects meet 10% net gain.	100% of projects meet 10% net gain.	100% of projects meet 10% net gain.	G	100% of projects committed to deliver 10% net gain or greater.
Work collaboratively with other transmission owners to agree a consistent approach to measure biodiversity impact and dependencies in the supply chain (inc. water).	Qualitative progress made.	The nature and biodiversity risks and dependencies of our sector supply chain are understood, priorities for targeted actions are identified – innovation outcomes are shared within energy networks and wider forums.	N/A	N/A	Launch of supply chain innovation project.	Completion of innovation project and industry engagement.	Range of opportunities identified to inform setting of reduction targets.	G	Supply chain innovation project completed.
Identify species-focused initiatives aligned with local priorities as part of construction delivery.	Number of species-specific actions identified for new construction projects.	Positive contribution to local nature recovery strategies and focused actions align to priority species.	N/A	N/A	N/A	Species-specific actions identified and delivered alongside construction activities.	Species-specific actions identified and delivered alongside construction activities.	G	Species-focused initiatives identified at three new construction sites.

Performance tables

To enable effective monitoring of objectives and measures, the following RAG status definitions are used:

- **R** Progress against milestones is at significant risk and highly likely to be missed
- **A** Progress is delayed but likely to be achievable before the end of the regulatory period
- **G** Progress against the implementation milestones is on track

Leadership for change

EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update
			FY22	FY23	FY24	FY25	FY26		
Have an engaged workforce on environmental issues that lead by example.	Employee engagement survey satisfaction score.	An engaged workforce.	75%	78%	80%	83%	85%	G	We rolled out a new survey to collect engagement data.
Take bold steps to tackle our SF_6 emissions and stimulate the market to more rapidly meet our stakeholders' needs.	No procurement of SF_6 when there are alternatives available in the market.	SF_6 alternative market stimulation.	No further procurement of new assets containing SF_6 for use on the 132 kV, 66 kV and 13 kV (tertiary) systems.					G	Five deviation requests to use SF_6 were approved in FY25 due to a lack of alternative solutions.
			We achieved ISO 14001 recertification in FY23, which runs until FY27.		We maintained our ISO14001 accreditation.				
			No further procurement of new gas insulated busbar (GIB) and gas insulated line containing SF_6 at any voltage.						
			Secure business commitment to progress the procurement and installation of non-SF_6 assets where available.			Stop using 275/400 kV SF_6 assets in new builds by 2024 (once two solutions are available).	No further procurement of 275 kV or 400 kV circuit breakers containing SF_6 (AIS & GIS) from 2026.		
Maintain a certified environmental management system.	100% of ET sites certified to ISO14001.	Maintain high levels of environmental management.						G	We maintained our ISO14001 certification.
Work collaboratively with other transmission owners to find common solutions and develop a consistent approach to sustainability issues.	Quarterly attendance at forums.	Cross collaboration and consistency in our approaches.	Establish working groups for carbon and nature.	Establish common methodologies for capital carbon and natural capital.	Establish Sustainability Forum to ensure consistency across carbon, nature, reporting, resource use and T3.	Agreement of sectoral commitments for T3.	Implementation of solutions and best practice sharing.	G	We have created a quarterly Sustainability Forum with SSEN and SPEN to work together on common sustainability goals.
Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups.	# of groups and meetings attended externally on environmental sustainability.	Shaping external discussions on environmental issues.	Full disclosure of memberships, influencing networks, and working groups – and any outputs associated to them e.g. contributing to developing standards and informing government.					G	We're active in a number of external working groups and shape discussion at events such as COP28.

Data tables

Net zero

Emissions in tCO_2e	Specific area	2018/19 baseline	FY22	FY23	FY24	FY25
Scope 1 – fugitive emissions	IIGs (tCO_2e)	272,114	229,528	223,003.00	227,666	188,185
Scope 1 – operational transport	Direct commercial vehicles (tCO_2e)	6,798	5,255	5,155.00	4,913	4,408
Scope 1 – fuel combustion	Diesel and natural gas (tCO_2e)	Not split out	308	242.00	577	721
Scope 2 – metered building energy use	Buildings – office/depots electricity (tCO_2e)	20,006	1,849	1,505.00	1,141	1,459
	Substation electricity (tCO_2e)		12,984	11,817.00	14,185	14,429
	Buildings – office/depots electricity (tCO_2e) market based	-	-	2,841.20	998	0
	Substation electricity (tCO_2e) market based	-	-	22,314.38	11,708	0
Scope 2 – electricity losses		1,295,484	1,152,795	1,299,340	1,228,468	1,252,860
Total emissions including losses (tCO_2e) location-based approach		**1,594,402**	**1,402,719**	**1,541,062**	**1,476,951**	**1,462,061**
Total emissions excluding losses (tCO_2e) location-based approach		**298,918**	**249,924**	**241,723**	**248,482**	**209,201**

IIG type	Units	FY22	FY23	FY24	FY25
Total IIG emissions	tCO_2e	231,997	228,023	227,666	188,185
SF_6 emissions	tCO_2e	229,528	223,003	222,708	182,947
SF_6/N_2	tCO_2e	2,468	5,020	4,958.50	5,238.00
Leakage rate	%	1.06	1.01	1.00	1.00
Interventions per annum	Number	29	44	83	80
Estimated impact of interventions	tCO_2e avoided or abated	9,996	3,609	5,849	7,770

Transmission losses	Units	FY22	FY23	FY24	FY25
Annual losses	TWh	5.42926	6.7	5.9	6.1
Share of total electricity	%	2.08	2.51	2.35	2.39
CO_2e emissions	tCO_2e	1,152,995	1,299,340	1,228,468	1,252,860

Net zero carbon emissions headlines	FY22	FY23	FY24	FY25
Annual reduction in insulation and interruption gas emissions (%)	14.0	3.0	2.0	17.0
Low carbon and renewable energy capacity connected to the network (MW)	1,869	0	1,350	1,649
Investment into innovation activities primarily supporting decarbonisation and/or protecting the environment (£m)	0.4	6.6	12.1	18.2

Capital carbon	FY22	FY23	FY24	FY25
Capital carbon intensity ($tCO_2/£m$)	163	153	145	141

Supply chain	FY22	FY23	FY24	FY25
Percentage of suppliers meeting our supplier code (%)	74	73	67	67
Percentage of suppliers that have their own sustainability metrics (%)	74	73	67	67

Data tables

Sustainable use of resources

Waste generation (tonnes)	**FY22** (tonnes)	**FY22** (%)	**FY23** (tonnes)	**FY23** (%)	**FY24** (tonnes)	**FY24** (%)	**FY25** (tonnes)	**FY25** (%)
Construction*	781,686	99.75	761,686	99.76	224,449	97.93	270,835	97.71%
Operational	1,908	0.24	1,769	0.23	4,653	2.03	6,238	2.25%
Office	61	0.01	84	0.01	91	0.04	104	0.04%
Total	783,655		763,539		229,193		277,177	

*Includes excluded European Waste Catalogue data which accounts for 3,299.77 tonnes. Please see our methodology annex to read more on the methodology.

Oil top-ups (litres)	**FY22**	**FY23**	**FY24**	**FY25**
Oil in service	>100 million	>100 million	>100 million	>100 million
Cable oil top-ups	15,807	11,229	8,149	10,667
Transformer oil top-ups	740,777	732,607	701,579	864,697

FY25 top 10 global categories of spend (%)	**Spend by** (%)
Substation services	25.06
IT & telecommunication related services (excl. consultancy)	10.86
Consultancy (excl. engineering consultancy)	10.42
Overhead line services	8.51
Building, civil engineering & associated services	7.78
Underground cable services	6.83
Engineering consultancy	6.15
Business & administrative services	5.83
Transformers, reactors & capacitors	4.94
Computer equipment & supplies	2.30

Incident type	**Number of incidents**	**Description**
Fluid filled cable oil (FFC) releases	2	Loss of 2000L of oil from a fluid-filled cable leak in a sensitive area – Watford South route. Location within Elstree substation boundary. There does not appear to be any significant residual hydrocarbon contamination after the repair works. It is considered that there is a low risk that any substances of concern could have a negative impact on the quality of the groundwater or have a negative effect on current/future site users.
		Loss of 450L of oil from a fluid-filled cable leak in a sensitive area – Bramley Didcot route. Location external to NGET land boundaries. No evidence of oil loss to environment following cable remedials.
Administrative breaches	2	Failure to respond to an environmental information request within 20 days relating to queries regarding the routing of the Norwich to Tilbury project.
		Failure to complete report of action to Natural England following the use of an individual bird licence on the 4TM route which runs through parts of Nottinghamshire and Lincolnshire.
Oil loss	3	Drainage system compromised at St John's Wood substation leading to an unquantified oil release impacting an external watercourse.
		Drainage system compromised leading to historic contamination flushed off site at Fleet substation during flood event.
		An unquantified volume of oil lost from a series of fluid-filled cables struck by a third party in a sensitive area – Walham to Port Ham route.
Fire	1	North Hyde substation asset failure leading to the release of transformer oil and fire fighting foams.

Data tables

Nature positive Part 1

Non-operational sites enhanced with environmental value – Part 1

Project name and location	Interventions/activities delivered	Ecosystem service	Annual flow of ecosystem services: Baseline NCV (£)	Annual flow of ecosystem services: Post-intervention NCV (£)	Timeline (yrs)
Capenhurst Environmental Partnership Agreement Capenhurst substation, Capenhurst Lane, Capenhurst, Chester, Cheshire, CH1 6HE	Partnership agreement with The Conservation Volunteers to deliver enhanced woodland management, resulting also in sustainable timber harvesting.	Timber	–	3,205	10
	Partnership agreement with The Conservation Volunteers to deliver at least 384 volunteering visits per year, including habitat management works and educational days with local schools.	Recreation	–	353,127	
	Enhanced partnership agreement with The Conservation Volunteers to deliver enhanced habitat management to increase biodiversity, which is in addition to the grassland diversification interventions identified and reported in FY24.	Wild species	42,454	52,499	
Amersham Environmental Education Centre Partnership Agreement Amersham substation, Mop End Lane, Mop End, Amersham, Buckinghamshire, HP7 0QR	Partnership agreement with the Field Studies Council to deliver an additional 2,000 visits per year to the existing Environmental Education Centre by delivering additional environmental activities for the local community.	Recreation	9,563,864	11,403,068	10
Iver Environmental Education Centre Partnership Agreement Iver substation, Slough Road, Iver, Buckinghamshire, SL0 0EB	Partnership agreement with Groundwork South to deliver at least 4,138 additional combined outreach and offsite environmental activity visits per year via the existing Environmental Education Centre.	Recreation	–	3,805,314	7
Kitwell Environmental Partnership Agreement Kitwell substation, Ravenhayes Lane, Birmingham, West Midlands, B32 4DZ	Partnership agreement with The Conservation Volunteers to deliver enhanced woodland management, resulting also in sustainable timber harvesting.	Timber	–	7,382	10
	Partnership agreement with The Conservation Volunteers to deliver at least 384 volunteering visit per year, including habitat management works and also educational engagement with local schools.	Recreation	–	337,494	
	Enhanced partnership agreement with The Conservation Volunteers to deliver enhanced habitat management (woodland and hedgerows) to increase biodiversity, which is in addition to the grassland diversification interventions identified and reported in FY24.	Wild species	20,176	43,310	
Knaresborough Environmental Partnership Agreement Knaresborough substation, Market Flat Lane, Scotton, Knaresborough, North Yorkshire, HG5 9BE	Partnership agreement with The Conservation Volunteers to deliver a change in land management – increase wetland/floodplain extent which reduces carbon emissions.	Carbon	27,514	28,979	10
	Partnership agreement with The Conservation Volunteers to deliver a change in land management – increase woodland/hedgerow extent which reduces air pollutants.	Air quality	11,786	12,274	
	Partnership agreement with The Conservation Volunteers to deliver a change in land management to deliver a change in land management – increase wetland/floodplain which delivers a water quality benefit.	Water quality	–	488	
	Partnership agreement with The Conservation Volunteers to deliver a change in land management introduced to deliver a change in land management – increase wetland/floodplain which delivers a flood control benefit.	Flood control	–	601	
	Partnership agreement with The Conservation Volunteers to deliver at least 32 volunteering visit per year, including habitat management works.	Recreation	–	38,522	
	A change in land management via a 10 year partnership agreement with The Conservation Volunteers – increase wetland/floodplain and additional woodland and hedgerow planting for the benefit of the community.	Community	-19,802	-4,082	
	A change in land management via a 10 year partnership agreement with The Conservation Volunteers – increase wetland/floodplain, and additional woodland and hedgerow planting to increase biodiversity, which is in addition to the grassland diversification identified and reported in FY24.	Wild species	–	11,626	
Lewingdon Wood Environmental Partnership Agreement Lewingdon Wood CSC, Off Streatley Hill, Streatley, Goring, Berkshire, RG8 9SU	Partnership agreement with The Conservation Volunteers to deliver at least 72 volunteering visit per year, including habitat management works and monitoring.	Recreation	2,595	3,813	10
	A change in habitat management introduced via a 10 year partnership agreement with The Conservation Volunteers to actively manage woodland for the benefit of wild species – increasing opportunities for various flora and fauna. This is in addition to the grassland diversification interventions identified and reported in FY24.	Wild species	–	45,911	

Continued in next rollover

Project name	Baseline units	% net change
Bradford West	1.32	15.00
Cellarhead	1.18	10.00
Cilfynydd	9.08	16.88
Creyke Beck Birkhill Wood	23.71	10.00
Creyke Beck Wanlass Beck	54.21	10.00
Didcot	7.1	15.00
Elsetree B (Letchmore Heath)	94.4	15.00
Ferrybridge B SSE BESS	2.68	15.00
Fleet	4.89	15.00
Grain to Tilbury (TKRE)	80.09	15.10
Laleham	0.95	15.00
Margam	157.4	10.00
Melksham CC Grid Park	0.25	28.00
North London reinforcements (HWUP)	328.91	10.00
Pitsmoor	4.64	10.00
Rainhill	-	10.00
Ryehouse	19.21	15.00
Southshields Smartwires	31.99	15.00
Wymondley	0.38	15.00

* Data not available

Nature positive	FY22	FY23	FY24	FY25
Investment in schemes to enhance/restore local environmental quality (£m)	0.3	0.2	0.3	0.4
Hectares of land enhanced in natural capital value (Ha)	95	46	44	13.9

Data tables

Nature positive Part 2

Non-operational sites enhanced with environmental value – Part 2

Project name and location	Interventions/activities delivered	Annual flow of ecosystem services: Ecosystem service	Baseline NCV (£)	Post-intervention NCV (£)	Timeline (yrs)
Penwortham Environmental Partnership Agreement Penwortham substation, Howick Cross Lane, Penwortham, Preston, Lancashire, PR1 0NS	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver woodland management, resulting also in sustainable timber harvesting.	Timber	–	6,799	10
	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver woodland management, resulting in a reduction in woodland area and thus a reduction in carbon.	Carbon	52,150	51,707	
	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver woodland management, resulting in a reduction in woodland area and thus a reduction in air quality.	Air quality	64,128	63,583	
	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver woodland management – for the benefit of pollination.	Pollination	–	37,921	
	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver at least 400 volunteering visits per year, including habitat management works.	Recreation	–	367,841	
	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver woodland management, resulting in a reduction in woodland area and thus a reduction in community value.	Community	4,276,888	4,241,342	
	Partnership agreement with The Wildlife Trust for Lancashire, Manchester and North Merseyside to deliver woodland management, resulting in increased biodiversity.	Wild species	12,985	34,182	
Rayleigh Environmental Partnership Agreement Rayleigh substation, London Road, Rayleigh, Wickford, Essex, SS6 9EZ	Partnership agreement with The Conservation Volunteers to deliver an average of 480 volunteering visits per year, including habitat management works and a community engagement programme to provide nature based educational sessions.	Recreation	–	441,409	10
	Partnership agreement with The Conservation Volunteers, resulting also in sustainable timber harvesting. This habitat management is in addition to the grassland diversification interventions identified and reported in FY24.	Timber	–	1,282	
Washway Farm Environmental Partnership Agreement Washway Farm, Spa Lane, Lathom, Skelmersdale, Lancashire, L40 6JG	Partnership agreement with The Conservation Volunteers to deliver an average of 43 volunteering visits per year, including habitat management works. This is in addition to the grassland diversification interventions identified and reported in FY24.	Recreation	–	39,543	10
West Thurrock Environmental Partnership Agreement Stoneness Road, Grays, Essex, RM20 3AG	Partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver additional woodland and wetland habitats (scrapes) to reduce carbon emissions.	Carbon	15,557	40,710	10
	Partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver additional woodland to improve air quality.	Air quality	65,334	168,922	
	Partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver additional wetland habitat to improve water quality.	Water quality	4,011	4,357	
	Introduction of a 10 year partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver additional wetland habitat to improve flood contol.	Flood control	4,943	5,370	
	Partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver an average of 226 volunteering visits per year, including habitat management and monitoring, and specialist topic walks.	Recreation	–	242,255	
	Partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver additional habitat management works which deliver a change in community value.	Community	-554,647	1,307,943	
	Partnership agreement with Essex Wildlife Trust and The Conservation Volunteers to deliver additional habitat management works to improve wild species.	Wild species	3,311	37,053	
Jordanthorpe Jordanthorpe substation, Off Bocham Parkway, Sheffield, South Yorkshire, S8 8JA	Three sites – Jordanthorpe, Ryhall and Whitfield – had to be removed from the Environmental Value Delivery Strategy, despite having being reported in FY24, due to changing operational requirements on these parcels of land.	N/A	N/A	-49,245	N/A
Ryhall Uffington Lane, Ryhall, Lincolnshire, PE9 4QD		N/A	N/A	-142,672	
Whitfield Whitfield, Stoke on Trent, ST6 8UW		N/A	N/A	-259,506	
		Total	**£13,603,839**	**£22,804,627**	
			Change in NCV	**3.27%**	

Project name	Baseline units	% net change
Bradford West	1.32	15.00
Cellarhead	1.18	10.00
Cilfynydd	9.08	16.88
Creyke Beck Birkhill Wood	23.71	10.00
Creyke Beck Wanlass Beck	54.21	10.00
Didcot	7.1	15.00
Elsetree B (Letchmore Heath)	94.4	15.00
Ferrybridge B SSE BESS	2.68	15.00
Fleet	4.89	15.00
Grain to Tilbury (TKRE)	80.09	15.10
Laleham	0.95	15.00
Margam	157.4	10.00
Melksham CC Grid Park	0.25	28.00
North London reinforcements (HWUP)	328.91	10.00
Pitsmoor	4.64	10.00
Rainhill	-	10.00
Ryehouse	19.21	15.00
Southshields Smartwires	31.99	15.00
Wymondley	0.38	15.00

* Data not available

Nature positive	FY22	FY23	FY24	FY25
Investment in schemes to enhance/restore local environmental quality (£m)	0.3	0.2	0.3	0.4
Hectares of land enhanced in natural capital value (Ha)	95	46	44	13.9

Incorporated joint venture data tables

Waste and fuel

Assurance of data statement

EGL1	The monthly data provided by the contractor is tracked, reviewed and analysed. This enables gaps to be identified, which are then discussed with the contractor to understand whether data is missing or not applicable (in which case, a justification is required). Comparisons are made between the data provided month on month to identify anomalies or recurring figures, which are then raised with the contractor and resolved accordingly.	**EGL2**	The sustainability data is provided by contractors on a monthly basis and is subject to close monitoring and validation. Each month's figures are reviewed against historical data to identify anomalies or unexpected variances. Where abnormal figures are detected, they are flagged and followed up with the respective contractor for clarification and verification. The figures in this reporting spreadsheet have been cross-checked against prior communications with contractors to ensure completeness and accuracy.

Waste and fuel

	EGL1		EGL2	
Waste generation (tonnes)	**FY25 (tonnes)**	**FY25 (%)**	**FY25 (tonnes)**	**FY25 (%)**
Landfill	0	0	16.5	4.2
Closed loop recycled	0	0	0	0.0
Open loop recycling	6.28	31	77.8	19.7
Combustion	0.819	4	1.2	0.3
Anaerobic digestion	10.24	50	299	75.8
Reuse	3.2	16	0	0.0
Total	**20.5**	**100**	**394.5**	**100**

	EGL1		EGL2	
Fuel type	**FY25 (litres)**	**FY25 (%)**	**FY25 (litres)**	**FY25 (%)**
Diesel	13,378.5	100	14,500	4.9
Marine diesel	0	0	0	0
HVO	0	0	267,307	90.9
Petrol	0	0	12,364	4.2
Total	**13,378.5**	**100**	**294,171**	**100**

Incorporated joint venture data tables

Carbon

Carbon

Project	Scope 3 category (tCO_2e)	FY25		
		NGET	Scottish TO	Total
EGL1	1: Purchased goods and services, capital goods	48,004	Not available	48,004
EGL2	1: Purchased goods and services, capital goods	52,841	68,250	121,091

Description of methodology on spend based approach

National Grid ET:
Our Scope 3 PGS emissions were subject to external independent limited assurance, through our Group Level Reporting, carried out by Deloitte. The methodology statement and external assurance opinion statement are available on our website.

SPEN EGL1:
Not available due to works still being in the early construction phase and not entering main works.

SSE EGL2:
The 2024/25 GHG emissions figure of 68,250 tCO_2e for EGL2 is a spend-based estimate of supply chain emissions associated with SSEN-T's portion of EGL2 spend. In basic terms, it takes all the spend in our procurement ledger that has been mapped to the EGL2 project number and multiplies each spend item by an appropriate $kgCO_2e/£$ emission factor from the 2021 version of this UK Government dataset.

The methodology and figure is consistent with SSEN-T's overall Scope 3 Category 1 and 2 figures for 2024/25, which have been externally verified to ISO14064 by Planet Mark. Note that it does not include EGL's portion of SSEN-T's Scope 1 & 2 emissions such as office energy use, employee travel, etc. EGL2 and SSEN-T operate as an integrated business and we do not currently have systems to disaggregate EGL2's operational activities from the SSEN-T total.

Incorporated joint venture data tables

Environmental compliance

Incident type (major)	Number of incidents	Description
0	0	N/A

Incorporated joint venture data tables

Delivering environmental net gain

Commitment to a minimum of 10% BNG

EGL1	The EGL1 Sustainability Strategy states that the project aims to achieve 10% BNG across the project. There are key commitments within this, as well as an explanation of how it will be delivered. This has been signed off by the Deputy Project Director. Updates on BNG progress and proposals have been shared with the EGL1 board for review and sign off.	**EGL2**	EGL2 has a commitment to a minimum of 10% Biodiversity Net Gain (BNG). We monitor progress against this commitment as part of our monthly contractor meetings and will continue to monitor and report on BNG for the remainder of this project.

Let us know what you think

The future of energy affects all of us. We would like to hear from you – our communities, customers, employees, investors and suppliers.

Our Environmental Action Plan is a collaborative programme, so we need your feedback to make sure we continue to focus on the right areas and deliver the results that matter the most.

We share updates, successes and insights along the way on our website.

If you would like to contact us about any aspect of our Annual Environmental Report, please email: .box.ET.Environmental@nationalgrid.com

Find out more about our approach to responsible business.

National Grid
National Grid House
Warwick Technology Park
Gallows Hill Warwick
CV34 6DA

nationalgrid.com

Download a copy of this Environment Report

nationalgrid

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom
Registered in England and Wales

nationalgrid.com

No. 4031152