

Electricity
Transmission

August 2021

Delivering our environmental future 2020/21

Our energy | Our planet | Our future

nationalgrid



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About this report

This statement provides an update on progress towards our published 'Environmental Sustainability Strategy'. In addition, this report is also our executive-level annual statement for the Environmental Discretionary Reward (EDR). The EDR provides a financial and reputational incentive for Great Britain's electricity transmission owners, encouraging high standards of environmental management as well as facilitating the transition to a decarbonised energy system.

The scope of this report is focused on performance data for the financial year reporting period from 1st April 2020 to 31st March 2021, however, future initiatives and activities are also described. The focus of this report is solely on National Grid Electricity Transmission's (NGET's) activities.



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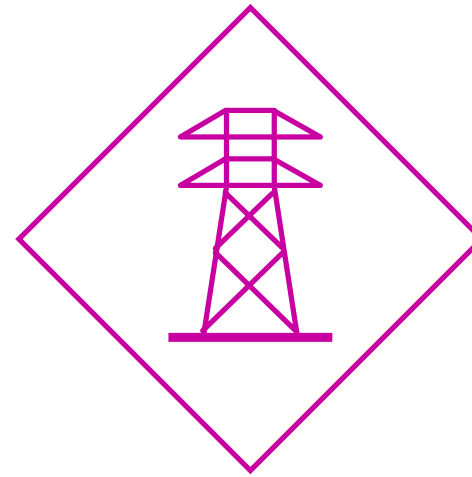
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Who we are

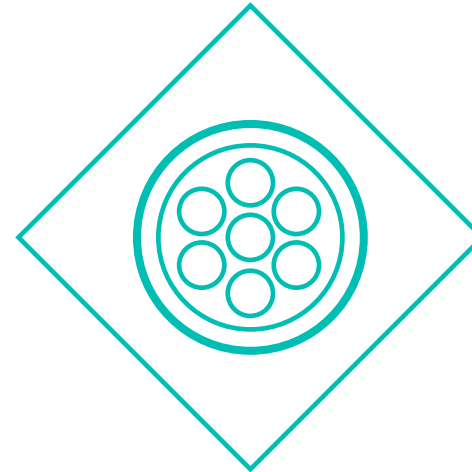
We are National Grid Electricity Transmission plc (NGET). We own and maintain the high-voltage electricity network in England and Wales. That includes c.4,500 miles of overhead line, about 900 miles of underground cable and over 300 substations.

Serving England and Wales

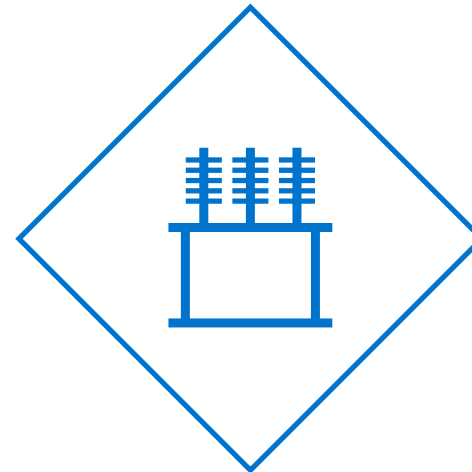
We move electricity from where it is generated, down the superhighway of the electricity system, to our direct customers and to the distribution companies that deliver power to homes and businesses.



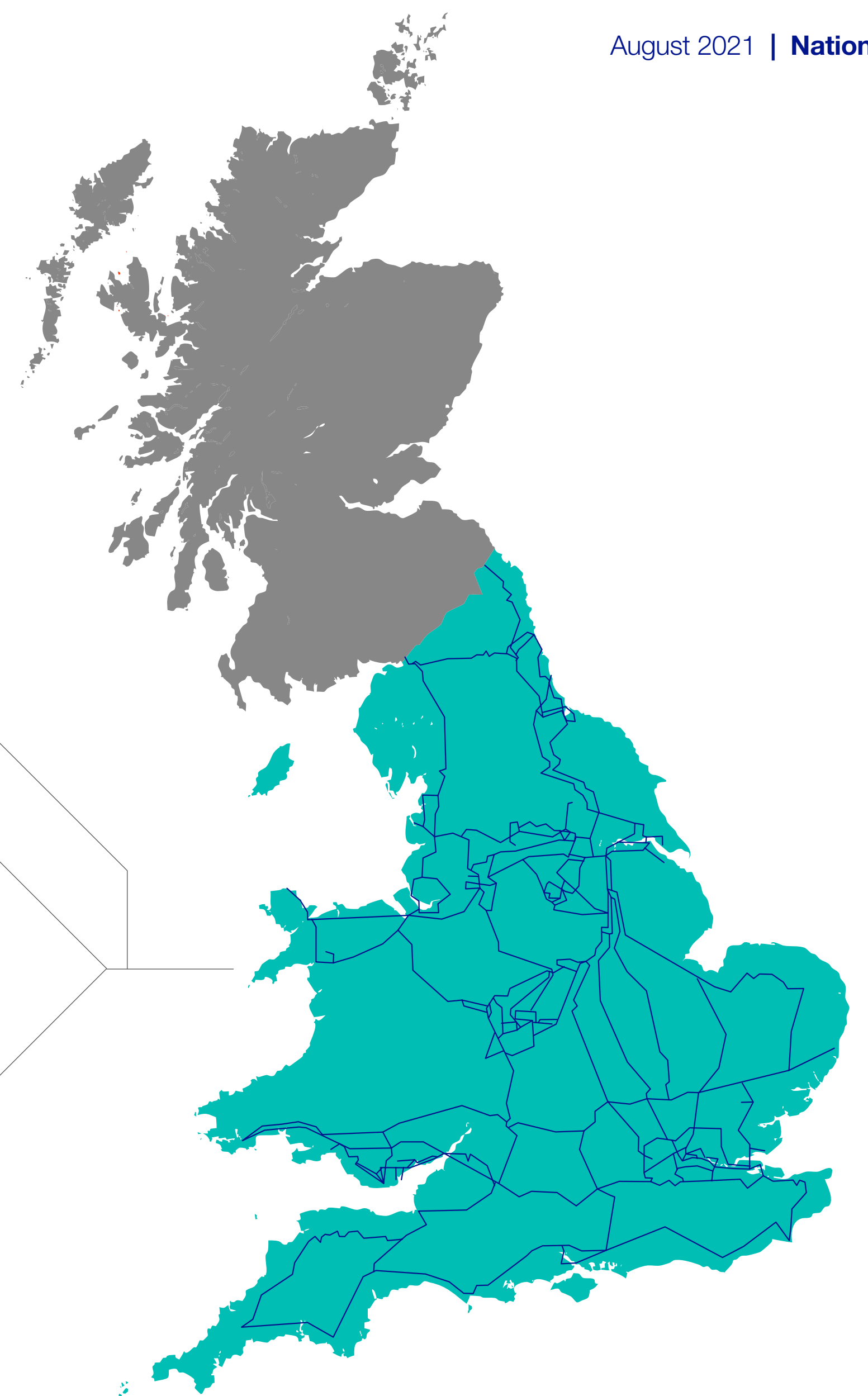
Approximately **4,500 miles** of overhead lines



Over **900 miles** of underground cables



Over **300 substations**



2020/21 highlights



Our energy


19 gigawatts
of low-carbon generation was supported by our network in 2020/21

0.6 gigawatts
of low-carbon generation was connected in 2020/21

71% increase
in customer offers since 2019/20

ConnectNow
Officially **launched** ConnectNow to customers

Smartvalve technology
First to implement Smartvalve technology at a **large scale across our transmission network**



Our planet

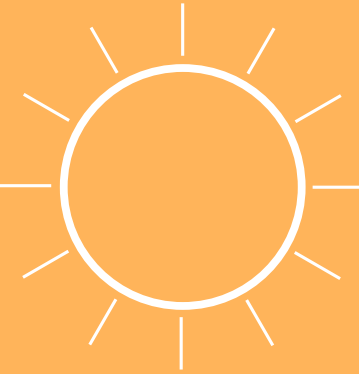
-4%
Reduced our controllable business **carbon footprint** by 4% from a 2012/13 baseline

-33%
Reduced the **carbon intensity of our construction design** by 33% from a 2015/16 baseline

+6 sites
We enhanced the value of our **natural assets** on six sites (46 sites in total since 2012/13)

Certification
Maintained certification to **ISO14001:2015** Environmental Management Standard

+7%
Converted 7% of our fleet to **Alternative Fuel Vehicles**



Our future

£8.12m
Secured £8.12m of funding from Ofgem's Network Innovation Competition (NIC) to **research the uprating of overhead lines**

£950m
Government committed £950m specifically to enable **EV charging infrastructure** on the strategic road network

8.85/10
stakeholder satisfaction score (up from 8.64/10 in 2019/20)

8.39/10
customer satisfaction score (up from 8.21/10 in 2019/20)

Strategy
Reviewed our strategic priorities to better reflect our role in the **low-carbon transition**

Welcome to our environmental statement 2020/21



Alice Delahunty
President, Electricity
Transmission

Welcome to our 2021 environmental statement. This year’s statement is my first since moving into my new role as President of our Electricity Transmission business in the UK, and what a year it has been.

Covid-19 has continued to have a significant impact on all of society, presenting a unique challenge and test of the resilience of our planning and our systems. I am proud that our people have risen to the challenge to make sure England and Wales can continue to rely on a reliable, safe and secure transmission network – providing electricity, the life blood of our society and economy.

At National Grid Electricity Transmission (NGET), we have continued to work with our stakeholders to ensure we are at the centre of the transition to a cleaner energy system: connecting new sources of renewable energy, decarbonising our operations and focusing on the needs of the future, including transport and heat.

Throughout 2020/21, we delivered our greatest number of connection offers, with increased customer satisfaction and simplified processes through investment in digital tools. We realised what whole-system means to us and delivered non-conventional solutions in our network development approach. We are the first to implement Smartvalve™ technology at a large scale across our transmission network.

I remain committed to leading the energy industry on the environment. We have made good progress in areas such as reducing our capital carbon, delivering natural capital improvements in our non-operational land and creating robust environmental risk assessments. We recognise our areas for improvement, with more vigorous progress needed on reducing our business carbon footprint and reducing our impact from Sulphur Hexafluoride (SF₆) leaks.

We are also working hard to solving the decarbonisation issues of the future. In November 2020, the UK Prime Minister unveiled an ambitious ten-point plan to support the drive towards a net-zero emissions position by 2050. We have continued

to develop new ideas and progress innovation projects. We have been proactive in leading the debate on transport and heat and we are putting sustainability at the heart of decision-making. This year we updated our strategic priorities to better reflect our role in the low-carbon transition.

This is our last environmental statement of RIIO-T1. During this time, we have listened and made robust progress. Our environmental sustainability strategy became our framework for reporting how we support the transition to our stakeholders, both internally and externally. As we transition into RIIO-T2, we will continue to work with our stakeholders to ensure that we deliver a clean, fair and affordable energy future. Our Environmental Action Plan will be our new framework for 2021–2026.

“At National Grid Electricity Transmission, we have continued to work with our stakeholders to ensure we are at the centre of the transition to a cleaner energy system.”





Our role in the low-carbon transition

We play a leading role in enabling and accelerating the transition to a clean energy system. As the transmission owner for England and Wales, we sit at the heart of the nation's energy system and we're tackling some of the most pressing energy challenges.

Connecting increasing amounts of renewable energy

We connect sources of electricity generation to the network and transport it onwards to the distribution system, so electricity can reach homes and businesses. Historically, this generation portfolio primarily comprised of fossil fuels, most of which have since been decommissioned. The transition to a low-carbon future is changing the nature of the electricity system rapidly. This historical generation portfolio is being increasingly replaced by renewable generation.

To support the transition, we are developing projects that can increase the speed of the connection of these low-carbon sources. We are working closely with distribution networks owners (DNOs), other transmission owners (TOs) and the National Grid Electricity System Operator (NGESO) to develop whole-system solutions. Additionally, we are developing long-term solutions to ensure we do not create bottlenecks, whilst minimising disruption for local communities. Our approach and activities are described in 'Our energy'.

Managing the environmental impact of our network

Our work involves building and maintaining the electricity transmission network. In our role as an infrastructure business, it is vital that we decarbonise our own network. We want to operate in an environmentally sustainable way because we know that it's the right thing to do – for society, the environment and our business.

We are focusing on areas where we can make the greatest contribution to a more sustainable future. We are reducing our carbon footprint, delivering more responsible resource use, enhancing the natural environment; whilst delivering excellent levels of environmental management. Our approach and activities are described in 'Our planet'.

Supporting long-term decarbonisation goals

Looking to the future, there is likely to be a considerable role for the electricity system in decarbonising both transport and potentially heat. We are working alongside the Government and industry to identify how we can support the delivery of low-carbon alternatives in these sectors.

To support this evolution, we are facilitating low-carbon innovation projects, we proactively engage in the debate, we listen closely to our customers and stakeholders and we review our decision-making to ensure our electricity transmission network is ready for the transition. Our approach and activities are described in 'Our future'.

External environment

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

The UK Government Ten-Point Plan

In November 2020, the UK Prime Minister unveiled an ambitious ten-point plan to support the drive towards a net-zero emissions position by 2050. By 2030, the UK government plans to quadruple our offshore wind capacity with an ambition of 40 gigawatts of offshore wind by 2030. The Government also accelerated the ban on the sale of new petrol and diesel cars to 2030. We fully welcome the Government's Ten-Point Plan and are confident that a faster transition is possible.

COVID-19

We have witnessed the Covid-19 pandemic bring pain, loss and the difficulties of isolation to friends, families, colleagues and our broader communities. Coronavirus has taken a heavy toll on our society and on our economy. In April 2020, our CEO joined other business leaders to sign a letter to the Prime Minister calling for a clean, inclusive and resilient recovery plan for the UK at the heart of Covid-19 recovery.

COP26

Though delayed until November 2021, the United Nations Climate Change conference, taking place in Glasgow, will raise the profile of Climate Change and the demand for decarbonisation. It will present significant opportunities for international collaboration and innovation. On the 16th November 2020, we were delighted to announce our decision to be a Principal Partner of this important global climate event.

Regulatory changes

In December 2020, Ofgem published their final determinations against our plan. Our Environmental Action Plan 2021-2026 – our environmental strategy for reducing the environmental impact of our operations – was approved as part of this final determinations, giving us an increased focus on getting ready for the successful delivery of our 25 environmental targets.

Responsible business

Society is impatient with the speed of change and we know that businesses can only exist when they have a purpose. We have looked at the role of our business in society and we know that we have a duty to do more to contribute to society and to the communities we serve. In October 2020, we published our Responsible Business Charter, an articulation of what 'responsibility' means for us at National Grid.

A just transition

The pandemic has exposed how urgently we need a just transition. We are committed to ensuring that the cost of the transition is fair and affordable. We work closely with local communities to make sure we minimise construction impacts as much as we can and support community initiatives in areas where we are working to deliver social, economic or environmental benefits. We will publish a strategy on our contribution later this year.

Digitalisation

The Covid-19 pandemic has accelerated the migration to digital. In NGET, we continued to advance our digital capabilities. Our Digital Acceleration Team has been implementing two innovative digital products – ConnectNow and Connect3D.



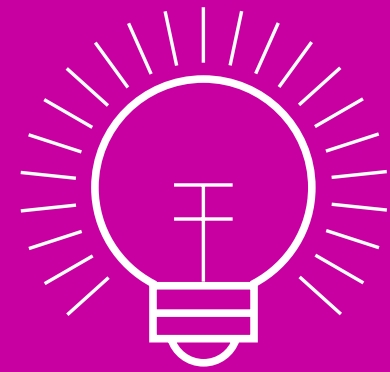
Our environmental strategy

Our strategic vision is to build a sustainable electricity network which makes a positive contribution to the environment and which makes possible the energy systems of the future.

In 2018/19 we developed an integrated strategy with commitments up to 2021 based on three fundamental pillars. This report is structured in these three sections: **Our energy; Our planet; Our future.**



NGET's transition to a clean, fair and affordable energy future



Our energy
We will enable the decarbonisation of the electricity system.

Connecting low-carbon generation – page 10

Whole-system planning – page 12

Enabling the energy system of the future – page 14



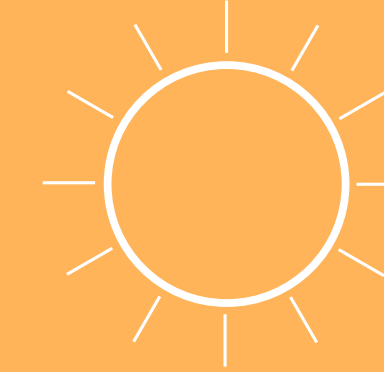
Our planet
We will make a positive contribution to the environment.

Our climate commitment – page 17

Responsible resource use – page 23

Enhancing the natural environment – page 24

Excellent environmental management – page 25



Our future
We will prepare our network to be fit for a low-carbon future.

Innovative thinking – page 27

Meeting the changing needs of customers and stakeholders – page 29

Putting sustainability at the heart of our decision-making – page 31

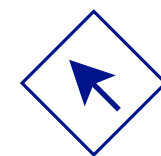
Continuously exceeding the expectations of our customers, stakeholders and communities – page 32

We chose our key areas of focus by looking at our network's biggest risks and opportunities, areas that align with our skills and impact using the UN Sustainable Development Goals (SDGs), and defined our environmental priorities by considering the issues that are important to stakeholders. We have reviewed these targets regularly, and annually reported on them so stakeholders can regularly monitor our progress.

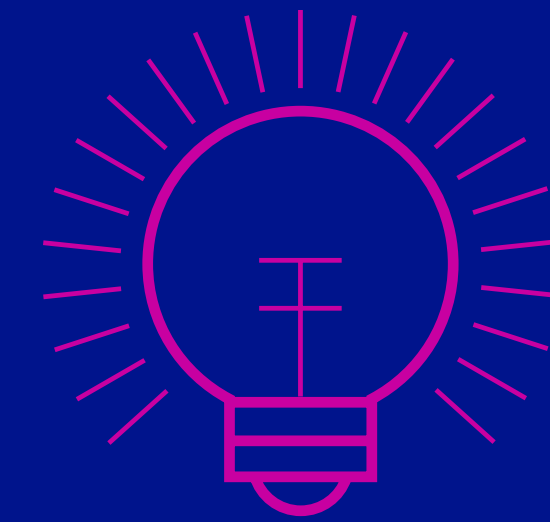
In 2020/21, we implemented projects that have contributed to the attainment of low-carbon energy, made a positive environmental impact and made our business 'future-proof' by embedding sustainability into our decision making.



SUSTAINABLE DEVELOPMENT GOALS



For more information on our environmental sustainability strategy, visit: <https://www.nationalgrid.com/uk/electricity-transmission/document/133886/download>



Our energy

We will enable the decarbonisation of the electricity system



Connecting low-carbon generation

The energy system will look very different in a net-zero world, and we are working to accelerate the transition, while balancing decarbonisation, affordability and reliability of supply.

2020/21 connections performance

We continued to make good progress in supporting the connection of low-carbon generation. We saw the highest number of applications being made, we delivered this with increased customer satisfaction, while increasing the amount of low-carbon generation being supported by our network.

19

19 gigawatts of low-carbon generation was supported by our network in 2020/21

0.6

0.6 gigawatts of low-carbon generation was connected in 2020/21

30.5%

30.5% of the generation connected to our network is low-carbon

355

355 customer offers made – an increase of 71% from 2019/20

73

73 days were the average days to develop and issue a customer offer

2020

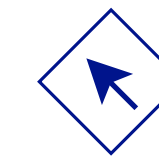
2020 clean energy record – Britain experienced the cleanest year on record, with the highest recorded levels of wind generation and solar power

ConnectNow launch

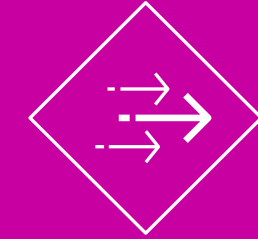
To achieve net-zero, we need to support an increasing number of customers. But, connecting to the electricity network is complex. It was time to make some changes to how people connect to our network and this is what inspired our new digital customer portal: ConnectNow. This is a one-stop destination for electricity connections customers, where they can research where and how to connect and then follow the progress of the project and associated finances in real time.

The development process for ConnectNow took most of the majority of 2019 and 2020. This involved carrying out significant customer engagement. On the 15th September 2020, we officially launched ConnectNow to the industry with over 230 attendees attending a live virtual event.

The tools we have built are focused on the needs of smaller connections that are helping us to bring more clean energy onto the network – lowering the barriers to entry to smooth the path for more renewables to connect. Around 90% of the new generators we are supporting are delivering greener, cleaner energy.



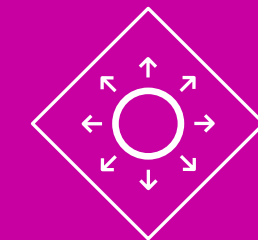
For more information on ConnectNow, visit: <https://www.nationalgrid.com/uk/electricity-transmission/get-connected/network-capacity-map>



Faster connections

Reduced the average time to develop a customer offer from 90 days to 73 days.

Target: Reduce the average time to develop a customer offer from 90 days to 55 days.



Increase capacity visibility

Increased network capacity visibility through our ConnectNow portal.

Target: Increase network capacity visibility through the development of our network capacity heatmap.





Case study – planning for 40 gigawatts by 2030

Background

In 2020, the UK Government set a target for 40 gigawatts of offshore wind to connect to the electricity system by 2030. This is a great step towards net-zero by 2050, which will require roughly 75 gigawatts of offshore wind. However, the majority of these offshore wind farms are expected to connect to the East Coast of England (approximately 60%). If each windfarm is treated individually then the system development will take longer and is unlikely to arrive at an economic and efficient whole-system design.

What did we do?

We have been and continued to explore opportunities for integration and are working with the Department of Business, Energy and Industrial Strategy (BEIS), Ofgem, Local Government, NGENSO, windfarm developers and Distribution Companies to deliver on this commitment.

- **Key senior appointments to drive change:** Project Director for East Coast Connections and an East Coast Senior Project Manager were appointed. Both roles are focused on understanding challenges, opportunities and timelines for 2030 delivery.

Engineering solutions explored:

Multipurpose interconnectors/ HVDC links, coastal energy hubs and using higher voltages have the potential to reduce the volume of infrastructure required onshore and offshore and are being explored with view to deployment.

Offshore Transmission Network Review (OTNR):

We have been supporting BEIS and Ofgem to address challenges by reviewing the way that the offshore transmission network is designed and delivered to be consistent with the ambition to deliver net-zero by 2050.

Influencing stakeholders to address barriers:

We communicated to the Government the planning-related areas they should consider, including refreshing the National Policy Statements and streamlining the consenting process.

Project benefits

- Migration to a cleaner energy system.
- Advancing offshore wind and a successful delivery of the 40 gigawatts by 2030 could deliver savings of 21 MTCO₂e between 2023 and 2032 (or 5% of 2018 UK emissions).
- Potential to deliver savings for consumers across Great Britain. Analysis by the NGENSO suggests that an integrated approach offshore could save consumers approximately £6 billion – 18% – in capital and operating expenditure between now and 2050.

What's next?

We are committed to continuing our work with Government, Ofgem and wider stakeholders to ensure that coordinated onshore and offshore electricity network solutions are developed in the interest of communities and consumers, and that Britain can seize the opportunity to be a world leader on the journey to net-zero.

Whole-system planning

The UK needs to adopt alternative sources of energy to power homes, transport and businesses reliably. We are working to build a fairer and more affordable energy system, with whole-system at the heart of this approach.

Our approach to whole-system thinking

In recognition of the benefits of coordinating whole-system activities through a single focus, we appointed a Whole-System Manager in 2019/20 and set up a Whole-System Forum to provide dedicated coordination and to champion whole-system thinking across the business.

In 2020/21, we reviewed our vision and strategy for whole-system planning. For the very first time, we published NGET's whole-system approach. Whole-system planning is inherently collaborative, so we sought to bring the distribution network owners and our Scottish Transmission Owner colleagues together to compare our views on the challenges involved and strategies for delivering the optimal whole-system network of the future.

In March 2021, we published our Whole-System Approach report so that stakeholders could visibly understand our position.

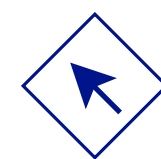
The aim of this report was two-fold:

- Close the loop by playing back what we have heard over the past year and giving stakeholders the chance to comment.
- Accelerate conversations across industry and with policymakers around how to make best use of this approach.

The report has been shared with over 2,000 stakeholders to date and acts as a starting point for the next series of conversations with those who need to come together to deliver net-zero.

Whole-system coordination in investment decisions

During 2020/21, Investment Engineers in our Network Optimisation team reviewed the templates and papers used internally to make investment decisions as part of the push to further embed a whole-system approach into the core business. It was clear that a stronger set of questions and considerations were needed. This new set of questions went live in April 2021.



For more information on our resilient whole-system approach, visit: <https://www.nationalgrid.com/uk/electricity-transmission/document/136231/download>



Looking ahead

We will look to implement changes to support the whole electricity system licence condition bought in April 2021. We will use next year to develop more whole-system projects and embed whole-system working in our organisation to ensure we start capturing and encouraging whole-system thinking in all that we do.



Reduce transmission related constraints

12 out of 12 DNOs in England and Wales no longer follow the 'Statement of Works' process for embedded generation connections. Instead they follow the improved 'Appendix G' process, which is easier and quicker.

Target: Work closely with stakeholders on establishing Appendix G trials as an industry code.



Case study – whole-system solutions to the Covid-19 crisis

Background

The UK energy system is undergoing a complete transformation. To accommodate these changes, the system requires investment to replace and reinforce parts of the transmission system. To allow this work to take place safely some parts of the network must be switched out of service to allow access to sites and equipment. This is known as an 'outage'.

What did we do?

During 2020/21, we responded to DNOs' concerns about planned outages to the NGET network that were scheduled during lockdown as they could affect supplies to major hospitals. Northern Powergrid were particularly concerned about some outages that were planned where local hospitals took their connection. As a result of their concerns, our Network Outages team, worked closely with the DNOs to justify essential outages. We agreed that only outages that were deemed essential would go ahead at this time.

Project benefits

- A whole-system approach was taken between NGET, Northern PowerGrid and NGESO to agree system access during this period of uncertainty.
- The risk was also shared between the three networks so that there was no risk of hospitals or AstraZeneca's vaccine plant being affected.

What's next?

We will continue to work closely with our DNO colleagues on outages and other projects to ensure that we deliver whole-system solutions and what we deliver is more optimal for consumers.

Enabling the energy system of the future

To mitigate potentially long lead times for expanding transmission capacity, we are developing a flexible electricity grid to take full advantage of large amounts of existing infrastructure.

Using transformational technology to remove bottlenecks and unlock significant network capacity

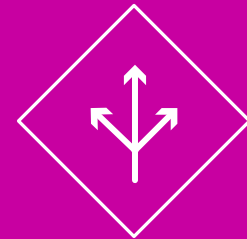
As renewables connect to the network, power flows change and circuits become unequally loaded, causing the strained circuit to overload. Circuits at substations in the north of England, near Harker, Penwortham and Saltholme, were identified as renewable power-flow bottlenecks. These substations were reaching capacity while surrounding circuits were still below their limits.

But we now have a solution; new technology from the US, Smart Wires, intelligently routes power to circuits that do have capacity, allowing us to maximise our existing network. SmartValve™ is a power-electronics-based device that actively balances power flows on transmission lines. SmartValve can push power off overloaded lines or pull power onto underused lines.

To solve the power flow bottlenecks, we are installing 48 SmartValves across five circuits at three substations in the UK. These devices can then operate autonomously or be actively controlled by the network operator. Three of these devices were deployed in 2020/21.

This new technology unlocks 1.5 gigawatts of electric capacity – enough to power 1 million homes with renewable energy. Traditionally, adding network capacity involves installing and upgrading new and existing lines, which takes many years, with greater environmental and financial costs. Power flow control devices are a more environmentally friendly technology than a conventional quad booster, with a carbon footprint that is approximately ten times less.

We are the first to implement this technology at a large scale across our transmission network.



Deliver system flexibility

Three Smartvalves devices were deployed in 2020/21.

Target: Deploy new ‘non-built’ alternatives alongside conventional reinforcements into our network.



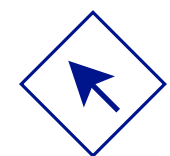
Minimum whole-life costs

We are developing innovative projects like RICA which delivers network capacity at the lowest cost to consumers.

Target: When we invest to strengthen the capacity of our network, do so at a minimum whole-life costs for the benefit of consumers.

“I’m proud to see NGET leading the way in pioneering transformational and innovative engineering to achieve wide-scale decarbonisation and overcome bottlenecks that are preventing maximum use of our networks.”

David Wright,
Chief Engineer for National Grid



For more information on Smartvalves, visit: <https://www.nationalgrid.com/stories/journey-to-net-zero-stories/working-smarter-get-net-zero>





Case study – preparing for a low-carbon future in the most cost-efficient way

Background

The move towards renewable generation, necessary to achieve the UK Government’s net-zero emissions target, is having an increasingly significant effect on transmission network constraints. A combination of renewable generation connecting in remote areas and increased demands in urban areas due to the electrification of heat and transport are both expected to drive the need for further network development and investment.

What did we do?

We are putting innovation at the forefront, making transformational changes to the way we operate in order to move towards a clean energy future. In 2019/20, we submitted our retrofit insulated cross-arms (RICA) project to the Network Innovation Competition (NIC) to develop a novel method of uprating overhead lines.

This project seeks to establish an innovative way to greatly increase the power transfer capacity of existing lines. RICA seeks to enable conversion of NGET 275kV towers to 400kV, providing new network capacity without the need for new-build overhead lines.

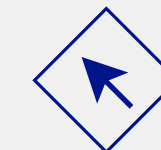
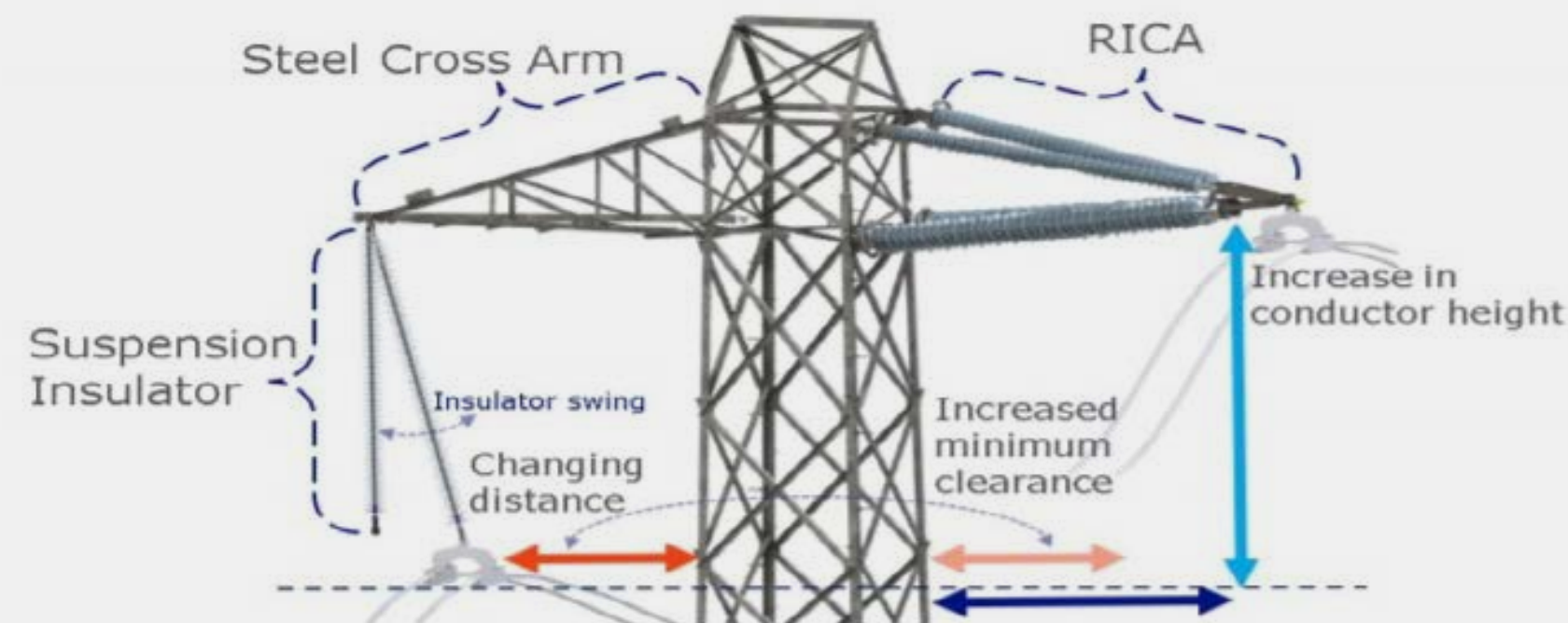
In November 2020 we found out we were successful in securing £8.12m in funding. Following the NIC decision, we subsequently sanctioned this project internally. We officially kicked-off the RICA project in January 2021, and hosted our first Technical Advisory Board in February 2021, consisting of the NGESO, SSE, SPEN, Cardiff University and the University of Manchester.

Project benefits

- **Delivers transmission network capacity to enable the net-zero transition.** Approximately 6.2 gigawatts of increased capacity if implemented on four routes and decrease project timings for transmission network reinforcement (approximately 2 years).
- **Reduces the direct environmental impact of our operations.** CO₂e benefits of approximately 39,000 KTCO₂e reduction in net carbon emissions by 2050 if this technology is rolled out at national scale, as it’s a non-build solution.
- **It is a cost-optimal solution for consumers.** Estimated 70% cost saving against a new 400kV line, with savings worth an estimated £286m if rolled out at GB scale.

What’s next?

The project started in January 2021 and has an end date of March 2026.



For more information on RICA, visit: <https://www.nationalgrid.com/uk/electricity-transmission/document/135426/download>



Our planet

We will make a positive contribution to the environment



Our climate commitment

Climate change is one of the greatest challenges facing society. Responding to the climate emergency is a key priority for us.

Climate change targets

Whilst the biggest impact we can have is supporting the economy-wide clean energy transition, it is important that we also reduce emissions from our own operations. In 2018 we committed to reduce our scope 1 and 2 emissions by 20% by 2020 against a 2012/13 baseline, excluding emissions from electricity losses. We also committed to reduce the capital carbon from our construction design by 50% from a 2015/16 baseline.

2020/21 performance – scope 1 and 2 greenhouse gas (GHG) emissions

Our business carbon footprint is made up of the following:

Controllable emissions:

- **Scope 1** – Insulating gases (SF₆): 266,759 TCO₂e forms 17.3% of our GHG emissions.
- **Scope 1** – Operational and business transport: 4,717 TCO₂e forms 0.5% of our GHG emissions.
- **Scope 2** – Energy use: 16,784 TCO₂e forms 0.9% of our GHG emissions.

Uncontrollable emissions:

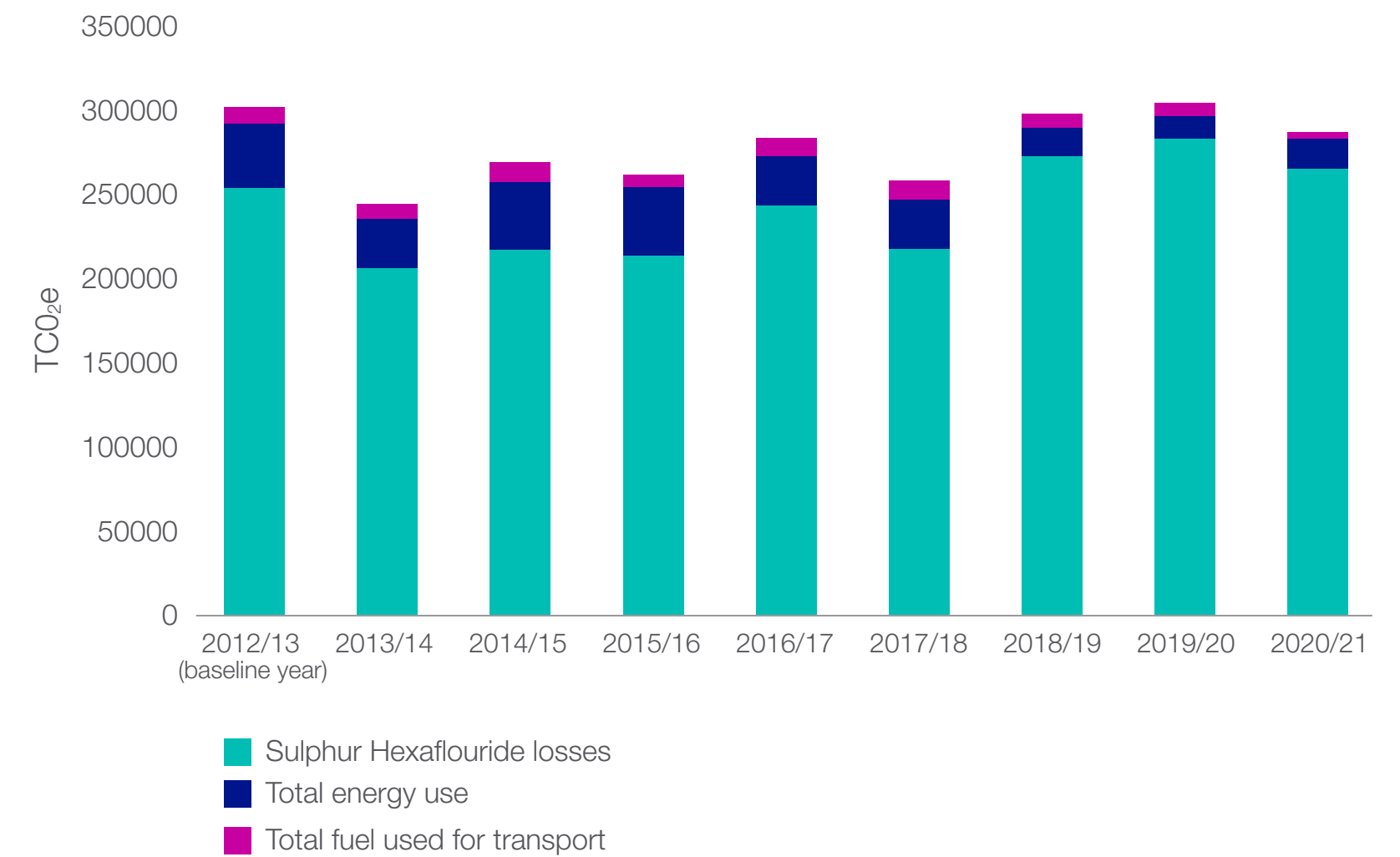
- **Scope 2** – Transmission losses: 1,255,673 TCO₂e forms 81.3% of our GHG emissions.

In 2020/21, our scope 1 and 2 emissions were 1,543,333 TCO₂e (including emissions from electricity line losses) and 287,660 TCO₂e (excluding emissions from electricity line losses).

Most of our emissions are the result of electricity transmission losses from our network. These occur because of electricity lost through heat when transmitting power. Emissions from these losses fall as the carbon of electricity falls, and this is largely out of our control.

The carbon emissions that we can control largely come from leakage of sulphur hexafluoride (SF₆) used as an insulating gas in high-voltage equipment, the energy used in our buildings and the fuel we use for business transport. We therefore exclude emissions from transmission losses in our carbon reduction strategy and focus on the areas that we can control.

Figure 1. NGET’s business carbon footprint (without electricity losses)



In 2020/21, our scope 1 and scope 2 greenhouse-gas emissions decreased by 4.2% from our 2012/13 baseline (without losses) and by 5.8% from 2019/20. We did not meet our 20% reduction target. The reason for this is mainly due to some discouraging SF₆ performance in previous years, where we had some unexpected big leaks from some of our assets.

The uptake of flexible working due to the Covid-19 pandemic has led to some positive environmental impacts, including a significant reduction in emissions related to travel. However, this has likely caused some displacement. There is likely to be an increase in emissions from home-working.

Overall in 2020/21, we saw a 6% reduction in SF₆, 11.5% increase in energy use, 28% reduction in our business transport and a 15% reduction in transmission losses from 2019/20.

Electricity transmission losses

A reduction in emissions from line losses, was the result of a reduction in grid electricity carbon intensity. Last year (2020) was the greenest year on record for Britain’s electricity system, with carbon intensity falling from 256g/kWh to 233g/kWh. This follows a trend that has seen the electricity system decarbonise by 66% in the last seven years.

Management of Sulphur Hexafluoride (SF₆) and Insulation Interruption Gases (IIGs)

Sulphur hexafluoride (SF₆) is a highly effective electrical insulator used in high voltage electrical applications. However, SF₆ can be released into the atmosphere by accidental leakage due to faults and/or equipment degradation.

Due to the nature of pressurised systems, any leaked gas needs to be replaced to maintain a safe working pressure for safe and reliable interconnected network. However, it is a greenhouse gas with a Global Warming Potential of 23,500 times that of carbon dioxide (CO₂) with an extremely long atmospheric lifetime of 3,200 years, making it a significant contributor to our business carbon footprint.

The harmful effects of SF₆ upon the global environment continue our focus on the effectiveness of controls around our management of this essential gas.

We have an annual leakage rate of approx. 12 tonnes SF₆, which equates to 282,000 TCO₂e per year. Our SF₆ leakage rate is currently at 1.3% of our asset base. Without intervention this was set to rise to 16 tonnes.

We have an SF₆ Working Group which is set up to identify the highest leaking assets and plan and implement a prioritised intervention for both repair and replacement activities. During 2020/21, the group completed 4,285kg of SF₆ leak interventions and repairs. A targeted plan of leak repairs led to significant improvements to overall leak rates in the second half of 2020/21 as Covid-19 restrictions were relaxed.

Even though we did see an increase in emissions from SF₆ leakage during the RIIO-T1 period, this was done in relation to an increase in asset base due to our network growing.

We are now developing an SF₆ intervention strategy for 2021–26 to deliver our science-based targets so that we can decarbonise our network at the lowest cost to consumers.

Embracing SF₆ alternatives

Managing our emissions from SF₆ is critical in our journey to reach net-zero emissions by 2050. A new alternative, more sustainable gas is needed to replace SF₆ entirely. We have led the way in Great Britain, collaborating with several manufacturers to find commercially viable alternatives with a lower global warming potential. More information on innovation work on SF₆ can be found on page 28.

In 2019/20, we introduced a new SF₆ policy that positions us as not putting any more SF₆ into the network when there is an alternative. SF₆ technologies are no longer proactively pursued, progressively adopted and installed as they become technically and commercially viable. As part of our new ambition, competing SF₆ technologies are now excluded from procurement activities when two or more technically and commercially viable solutions are available and offered. We also stopped procuring new gas-insulated busbar and gas-insulated lines containing SF₆ at any voltage and stopped the procurement of assets containing SF₆ for use on our 132 kV, 66 kV and 13 kV network.

Table 1. Scope 1 and 2 emissions performance

Categories	2012/13 (baseline year)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	% difference from 2019/20	% difference from 2012/13
Transmission Losses	2,364,047	1,978,126	2,273,648	1,996,489	1,700,101	1,628,112	1,295,484	1,475,266	1,255,673	-14.9	-46.9
Sulphur Hexafluoride Losses	255,488	205,833	217,604	215,616	242,605	219,217	272,114	283,651	266,759	-6.0	+4.4
Total Energy Use	40,531	28,964	40,958	38,107	29,991	27,559	20,006	15,053	16,784	+11.5	-58.6
Total Fuel Used For Transport	8,053	10,567	9,713	10,069	10,131	11,616	6,798	6,528	4,717	-27.7	-41.4
BCF (Including Losses)	2,669,233	2,233,421	2,552,420	2,270,683	1,986,349	1,886,503	1,594,407	1,780,498	1,542,618	-13.3	-42.2
BCF (Excl. losses)	300,246	255,295	278,772	274,194	286,248	258,391	298,922	305,232	286,945	-5.8	-4.2

Table 2. SF₆ policy timeline

2021/22	2022/23	2023/24	2024/25	2025/26
No further procurement of new assets containing SF ₆ for use on the 132kV, 66kV and 13kV (tertiary) systems				
No further procurement of new gas insulated busbar (GIB) and gas insulated line containing SF ₆ at any voltage				
			Stop using 275/400kV SF ₆ assets in new builds by 2024	No further procurement of 275kV or 400kV circuit breaker containing SF ₆ (AIS & GIS) from 2026

Decarbonising our business fleet

Even though emissions from transport are relatively small compared to those of SF₆, due to our significant van fleet of 836 commercial vehicles, we have made it a priority to decarbonise our own fleet. We made a commitment that by 2021 we would deploy at least 30 electric vans in our commercial fleet.

Our Electricity Operations team deployed a total of 60 Nissan ENV200s, meeting our EV deployment target. This is 7% of NGET's total fleet. 30 of the vehicles were deployed in 2019/20, and 30 were deployed in 2020/21 as a result of a successful pilot. We have now updated our commitment to transition to 60% alternative fuel fleet by 2026. Each of the vehicles has an expected six-year (60,000-mile) life, which reduces our carbon footprint when compared to the equivalent diesel vehicles by over 120 tonnes of CO₂ per vehicle.

Energy use


Whilst we have been able to make significant reductions in energy use at some of our offices, increases in ventilation requirements due to COVID-19 at our main offices presented a real challenge this year. At National Grid House in Warwick, for example, reducing the number of people in the building (and therefore the heat load/input), whilst moving to full fresh air and extending air handling unit run hours had a sizable negative impact on our gas use.

A lot of effort was put into managing ventilation (within the scope of the current guidance) and updating our building management system (BMS) control philosophies to mitigate this with other, more typical energy conservation projects going on through the Covid period as well (lighting, BMS modification and mostly boiler works). Our goal for 2026 is to reduce our office energy use by 20%, purchase 100% renewable energy and develop an energy efficiency programme for our wider building estate.


Looking ahead

In 2019 we furthered our commitment to combating climate change. We will achieve net-zero for our direct emissions by 2050, with interim targets of 34% reduction by 2026 and 50% by 2030 from a 2018/19 baseline. We will also have a target to achieve carbon-neutral construction emissions by 2026.

In 2021/22 we will have these targets accredited with the Science-Based Targets Initiative (SBTi), in line with limiting global temperature rise to 1.5°C above pre-industrial levels. These were in fact, accredited in April 2021. We will also be working with the Carbon Trust to obtain a better understanding of our full scope 3 emissions and set a scope 3 target in line with science-based targets.



Reporting transparency
We are committed to reporting transparently on our climate change programme and, in addition to our Task Force on Climate-Related Financial Disclosures (TCFD) report, we achieved the CDP Climate Change 'A List' rating for the fifth consecutive year.



Our climate commitment
4% reduction in our controllable greenhouse gas emissions from a 2012/13 baseline.

Target: We will reduce our controllable greenhouse gas emissions by 20% from a 2012/13 baseline.

 For more information on our path to net-zero, visit: <https://www.nationalgrid.com/uk/electricity-transmission/document/133451/download>





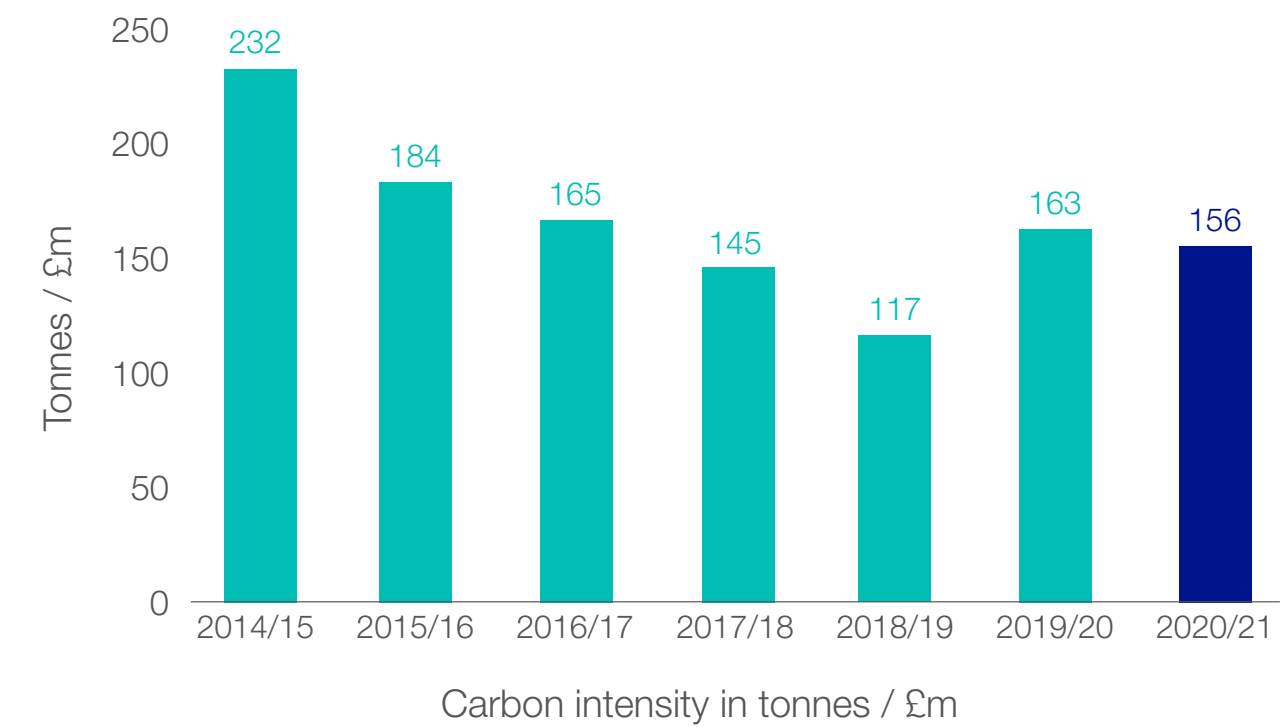
Roadmap for net-zero construction

In 2020/21, we engaged with our supply chain and contractors with the objective to innovate and share best practice to reduce our collective carbon footprint. We developed a Net-Zero Forum with our contractors to jointly create a net-zero construction roadmap. This included establishing five different working groups:

- Concrete Working Group
- Steel Working Group
- Aluminium Working Group
- Temporary Works Working Group
- Construction-Phase Working Group.

This has helped us develop a roadmap to deliver on our commitment to deliver carbon neutral construction by 2026.

Figure 2. NGET’s carbon intensity over time



Low-carbon construction

We play a vital role in connecting low-carbon generation to the transmission network. This can require the development of new infrastructure to support the existing network. To do this in the most sustainable way, we need to continue driving down carbon emissions throughout the entire lifecycle of our projects. To do this we set a target to reduce by 50% the carbon intensity of our construction projects by 2020 (from a 2015/16 baseline).

We use a rolling 12-month intensity metric to track our performance. At the end of 2020/21, performance was above target with 156 TCO₂/£m against a target of 117 TCO₂/£m. This is a 33% reduction in capital carbon from our baseline in 2015/16, against a 50% reduction target.

Carbon intensity performance is heavily impacted by the type of projects in our workbook. Although we have ultimately fallen short of this ambitious target, it was based on limited data at the time of setting the target. By having this ambitious goal, it has driven a step change in the way we think about the carbon impact of our construction projects and enabled us to set an industry leading goal as part of our 2021–2026 commitments.

Looking ahead

We have set a target to deliver net-zero construction by 2026. We will deliver this by reducing emissions as much as it is feasibly possible in line with internationally recognised industry standard PAS2080 Carbon Management in Infrastructure, and only offset residual emissions that cannot be avoided.

Responsible Procurement

Our commitment to being an environmentally sustainable business reaches beyond our own activities and encourages our suppliers to work towards being more sustainable too.

- **Prequalification:** We pre-qualify our suppliers using a vendor registration system operated by Achilles called the Utilities Vendor Database (UVDB). The UVDB includes questions on environmental management, modern slavery and human trafficking as part of the registration process. In 2020/21, we added sustainability questions to our pre-engagement supplier form.
- **Tenders:** For our major infrastructure projects, we include a 5% weighting on carbon as part of the tender evaluation process. We have learnt a lot from including carbon in tenders since we started in 2015. During RIIO-T1, carbon was included as a weighted element in 44 major construction tenders. The ratio of cost reduction to carbon reduction observed to date from 2016–present, is, at a portfolio level, a 10:6 ratio, where a 10% carbon reduction equals up to a 6% cost reduction.

- **Contract management:** Embedding sustainability in supplier contracts is essential so that contractors deliver what they committed to at tender stage. This year we embedded our RIIO-T2 Environmental Action Plan commitments into the commercial framework terms and conditions. Over the upcoming RIIO-T2 period, roughly 370 schemes are forecast to be sanctioned with a combined value in the order of £5bn. Therefore, it is vital that we continually improve our approach and processes to support this work.
- **Supply chain engagement:** CDP (formerly the Carbon Disclosure Project) evaluates the availability of organisations to engage with their suppliers on climate change. In 2012, we committed to having 80% of our top 250 suppliers disclosing their greenhouse-gas emissions via CDP by 2020. In 2020/21, 87% of our top 250 suppliers disclosed their emissions, exceeding our sustainability procurement target. Our work in this area has been recognised with our inclusion in environmental monitoring organisation Carbon Disclosure Project (CDP)'s latest Supplier Engagement Leader board.

What's next?

In 2020/21, the Responsible Procurement Plan was agreed as part of the Ofgem Business Plan Final Determinations. We made a commitment that 75% of our suppliers will have active carbon reduction targets by 2026. We will also align our Procurement Strategy to international recognised standards, e.g. ISO20400 Sustainable Sourcing Standard.



Carbon intensity of construction

33% reduction in the carbon intensity of our construction design from a 2015/16 baseline.

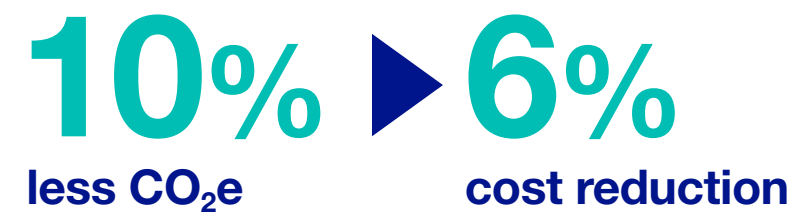
Target: 50% reduction in the carbon intensity of our construction design from a 2015/16 baseline.



Supply chain disclosure

87% of our top 250 suppliers disclosed their GHG emissions via the CDP supply chain programme.

Target: 80% of our top 250 suppliers disclosed their GHG emissions via the CDP supply chain programme.





Case study – climate change adaptation

Background

In order to deliver the continuous service our customers expect, we are ensuring that our business is designed to cope with disruptive events, especially those associated with increasingly common severe weather conditions. We are making certain that our assets are designed to cope with the most severe events, such as drought and flooding, especially as climate change will lead to an increased frequency of such events.

What did we do?

In 2020/21, we significantly increased the robustness of our climate adaptation assessment. Since the publication of our second-round report (ARP2), our understanding of potential climate change impacts has advanced with the publication by the Met Office of the UKCP18 climate model.

We also worked with partners in the Energy Networks Association (ENA) on a standardised risk matrix, covering the energy distribution and transmission sector for the first time. As part of the work with the ENA, we also supported an innovative climate change assessment for the energy sector produced by the Met Office.

Project benefits

- We now have a full review of our potential climate risks over a period of nearly 35 years.
- A total of 86 potential risks were identified, and after a full gap analysis (looking at relevance and significance), 50 were carried forward for detailed assessment. The previous ARP reports concentrated on eight core risks.
- For the first time, the energy sector has an assessment of all our physical climate risks and related knowledge.

What's next?

The outputs from the risk assessment have been integrated into National Grid's Task Force on Climate-Related Financial Disclosure (TCFD) climate modelling project which seeks to identify specific geographic and asset risks. The links will allow the ARP3 risk assessment to be continually updated and used as a database of risk and responses, above that expected by DEFRA.

Responsible resource use

We have committed to diverting as much of our waste from landfill as is feasibly possible.

In 2020/21, we achieved 94% diversion from landfill in our operational sites (e.g. substations); this is a slight decrease from 97% achieved last year. We also saw a reduction in the waste generated. This year, we generated 1,699 tonnes of waste compared to 8,143 tonnes last year. The significant reduction in waste is mainly a consequence of Covid-19 and fewer people working in our operational sites. As our workforce return to the offices in the near future, we will continue to have a strong focus on correct segregation and ensuring that we recycle as much as we can and minimise landfill.

Table 3. NGET’s operational waste

Treatment of waste	2017/18	2018/19	2019/20	2020/21
Waste diverted from landfill (%)	95	93	97	94
Waste generated (Tonnes)	7,423	9,286	8,143	1,699

With regards to our office waste, we also saw a big drop in our waste tonnage with 41.65 tonnes this year compared to 108.95 tonnes last year. Again, this is due to a significant increase in our workforce working from home due to lockdown measures.

Table 4. NGET’s office waste

Treatment of waste	2019/20	2020/21
Waste diverted from landfill (%)	100	100
Waste generated (Tonnes)	109	42

We are not reporting our construction waste this year as we improve our reporting processes to ensure we have timely and accurate data. Construction waste is the most material aspect of our waste streams and we will be looking to achieve a solid baseline figure for our construction waste in 2021/2022. We have set up a group called the Contractors Resource Forum, with representatives from our supply chain. This group has set up action plans to meet targets on waste and secondary material use.

Table 5. NGET’s construction waste

Treatment of waste	2018/19	2019/20
Waste diverted from landfill (%)	90	98
Waste generated (Tonnes)	239,198	239,306

What’s next?

Responsible resource use will be a key area of focus for us for the 2021-2026 period. We will achieve zero-waste to landfill across key areas of waste to make the most out of natural resources and our assets. By 2026, we will:

- achieve zero-waste to landfill across construction projects
- reduce the waste intensity of our construction projects year on year
- increase our construction recycling and composting rates and set a target from a 2020/21 baseline

- increase our operational and office recycling rates from 45% and 46% (respectively) to 60%
- reduce the waste tonnage and water use (from a 2019/20 baseline) at our offices by 20%
- pilot and implement circular economy principles by aligning our business to internationally recognised standards, e.g. BS 8001 – circular economy standards.



Waste diverted from landfill
94% of our operational waste was diverted from landfill.

Target: Maintain a landfill diversion rate of 95% from our operational waste.



Enhancing the natural environment

As a major landowner, our activities can have a substantial impact on the natural environment at our sites. We have a significant role to play in protecting and creating a more sustainable environment.

Enhancing the value of our natural assets

Since 2012/13, we have used a natural capital valuation tool to build a natural capital inventory of assets we own and are responsible for, including biodiversity. We have increased the value and resilience of our natural assets, to make sure they can deliver the ecosystem services that we and our wider beneficiaries need in the most cost-effective way possible and we set ourselves a target of making proactive sustainability improvements to 30 NGET sites by 2020.

Our approach focuses on the natural assets that deliver essential services to our business and to our neighbouring stakeholders and wider beneficiaries, services such as:

- Visual screening
- Security and asset protection
- Noise reduction
- Flood attenuation
- Pollution control
- Pollination
- Support for wild species / biodiversity.

There is, therefore, no single prescribed recipe for enhancements and we are delivering a range of models and a range of outcomes that deliver environmental, educational, enterprise and heritage outcomes.

In 2020/21, proactive sustainability improvements were delivered across six electricity substation sites within the period. A total of 46 electricity transmission sites have been enhanced with a natural capital approach since we started in 2013/14.

These projects were led primarily by our 2020 graduate intake who engaged with many external stakeholders including wildlife trusts, local authorities, communities and schools in close proximity to the project sites.

The scale of action and subsequent value increase resulting from our improvements in this period have been reduced compared to previous periods. This is mainly due to the impact of COVID-19.

Although Covid-19 had an impact on local engagement and interaction, improvement and enhancement opportunities were developed by the groups, informed by the tools and subsequently delivered by our land management service providers across the range of sites. Actions included

the creation of outdoor spaces for employees, planting of hedgerows and other natural barriers to support site security, creation of wildflower areas, and the installation of bird and bat boxes.

Standardising our approach to Natural Capital Assessments

In order to develop a standardised approach to Natural Capital assessment, the reporting year brought greater collaboration with the other Transmission Operators. We worked together on piloting and reviewing an Innovate UK funded tool (NATURE), project managed by consultants WSP.

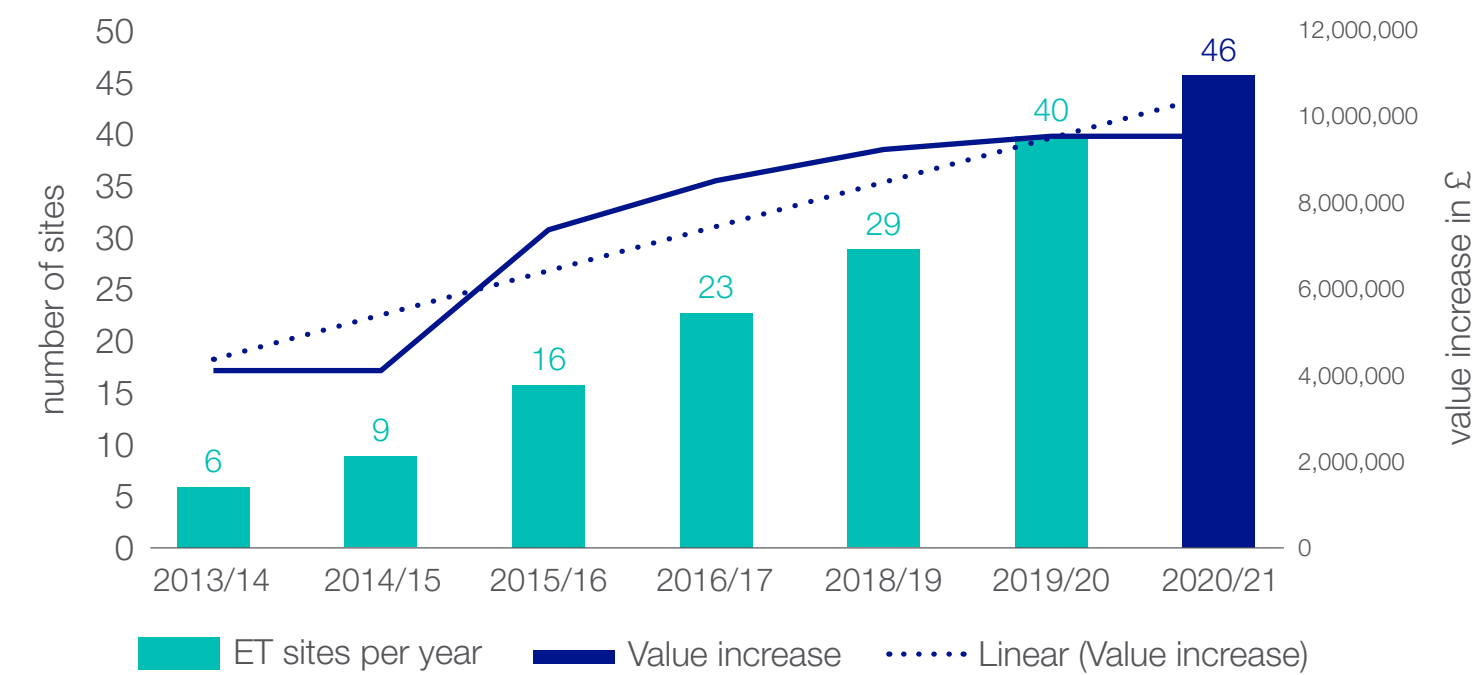
Further assessment of the tool will be carried out by the end of 2021, this will be a whole-systems approach including Distribution Network Operators to ensure the NATURE tool is fit for purpose in assessing natural capital across the network. As part of this wider group, we are including discussion of potential additional requirements, such as monetisation of ecosystem services assessment.

What's next?

By 2026 we will increase environmental value of non-operational land by 10% against a natural capital and biodiversity baseline.

Figure 3. NGET's natural grid sites

ET Natural Grid Sites (March 2021)



Enhancing the natural environment continued



Driving net-gain in environmental value (including biodiversity) on major construction projects

As we upgrade and expand our network to facilitate delivery of a low-carbon and net-zero future we're making sure that we minimise the impact of our construction projects and deliver a 'net-gain' as a result of our works.

Biodiversity net-gain is an approach to development that leaves biodiversity in a better state than before. In 2018, we aimed for no net loss.

In 2020/21, 63% of net-gain milestones were completed to fully embed net-gain in our network development decisions. These are internal milestones to support the implementation of net-gain into our processes. Changes to programme timelines, customer-driven changes and complexities identified from environmental surveys account for a significant proportion of milestones not met within identified dates. However, engagement with over 40 schemes throughout the latter part of T1 has helped to build net-gain awareness and capability for T2.

2020/21 actions:

- Net-gain training and awareness materials were developed and distributed to Investment Engineers.
- Net-gain requirements were integrated into the Network Development Process.
- Net-gain commitments were integrated into Visual Impact Provision (VIP) schemes for Snowdonia and Peak East.
- Alongside the other GB transmission owners, we have continued to contribute to the development of a new natural capital planning tool, NATURE, which articulates the wider benefits delivered by the habitat creation or enhancement activities we undertake. This tool is due to be launched in July 2021.

What's next?

By 2026 we will 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).



Enhancing the value of our natural assets

46 sites have been enhanced with a natural capital approach.

Target: Enhance the value of our natural assets on more than 30 sites.



Net-gain in environmental value

63% of net-gain milestones were completed within 2020/21 to fully embed net-gain in our network development decisions.

Target: Drive net-gain in environmental value (including biodiversity) on major construction projects.

Excellent environmental management

We operate and maintain an environmental management system certified to ISO14001:2015. The system covers all our operational and non-operational activities, including construction. This systematically reviews our risks and opportunities, ensuring we achieve legal compliance, seek to reduce our environmental risks and have a positive contribution on the environment where possible.

Maintaining ISO14001 certification

Our Environmental Management System, which is externally verified by a third-party auditor, promotes continued improvement of environmental management using objectives and targets. Following a successful ISO14001 audit in 2020/21, we have retained our certification to the 2015 environmental management standard. Two minor non-conformances have been raised this year, as well as several areas of good/best practice. The auditors called out the excellent relationship between National Grid Electricity Transmission and contractors on our capital delivery projects, as well as the environmental risk mapping, as some strengths.

Protecting communities and sensitive areas

Maintaining ISO14001 certification requires there to be continuous improvement in the management of environmental risk and opportunities. This past year has seen the realisation of two years' work in improving our understanding of environmental risk at individual sites. This includes the location of local residents, groundwater sensitivity, watercourses, protected/sensitive habitats, number

of bird species, the potential for ground contamination and whether the site has a coastal location – a total of 16 types of receptor for all of our substations. Each site has also been scored based on its sensitivity. We have now developed a risk register of each site against several environmental criteria and ranked the sites as overall highest risk, this is being used to inform our engagement activities in the coming year.

Environmental incidents

We have an internal environmental incident classification to drive the right behaviours and learning into our organisation. There was a total of 158 environmental incidents reported within NGET during 2020/21, of which 58 were attributed to the action of contractors and eight were public/third-party related. The majority of these (95) were “Near miss with release”, with eight Category 1 incidents, two Category 2 and 53 classified as a near miss incidents. The Category 1 incidents, the most significant, being based on the level of environmental impact, enforcement action or active interest by a regulator or similar body, were mainly related to the loss of SF₆ as a result of fault or maintenance issue. None resulted in fines and / or significant enforcement action.



Environmental Management Standard
Certification to ISO14001:2015 maintained.

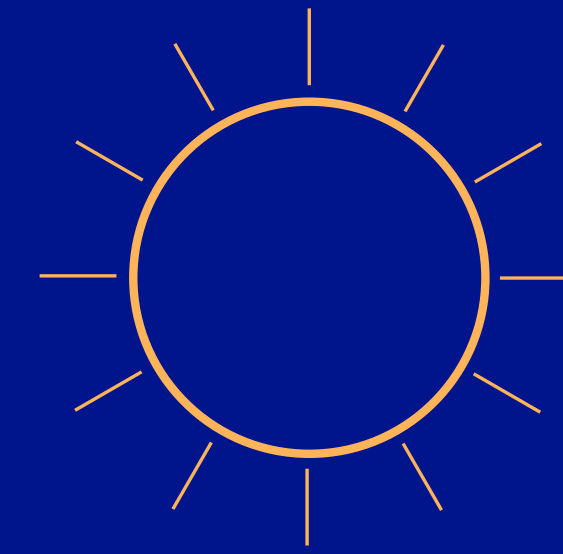
Target: Maintain certification to ISO14001:2015 Environmental Management Standard.



Protecting communities and sensitive areas
100% of sites have been risk assessed.

Target: 100% of our assets, on our land, are adequately risk assessed.





Our future

We will prepare our network to be fit for a low-carbon future



Innovative thinking

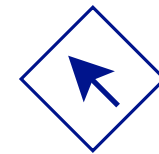
We are innovating to find new solutions to a low-carbon future.

Our innovation strategy

Our innovation strategy, developed with our stakeholders, continues to have net-zero at its core. It has three key pillars:

- **Delivering cleaner energy:** Create a road to net-zero by reducing our carbon footprint and helping others reduce theirs.
- **Delivering cheaper energy:** Through a long-term innovation programme, deliver a net-zero whole-energy system strategy at minimum achievable cost.
- **Delivering an innovative culture:** Driving a more externally referenced, collaborative, open and innovative approach across all our organisational disciplines, while at the same time building capability and unlocking potential in our people.

Most of our innovation projects (under the Network Innovation Allowance, Network Innovation Competition and business-funded innovation) involve collaboration with at least one third-party organisation, allowing us to share expertise and knowledge on areas that reduce our environmental impact or help deliver cleaner energy.



For more information on our Innovation Strategy, visit: <https://www.nationalgrid.com/uk/electricity-transmission/document/133491/download>



Case study – alternative low-carbon backup generators



Background

We currently use 327 diesel generators to provide backup power for substation AC power facilities. During an outage (loss of normal supply), these diesel generators power both essential and non-essential loads on sites and are expected to run until power is restored. However, diesel generators are high-carbon-emitting units that are inconsistent with our overall company strategy to achieve net-zero.

What did we do?

During 2020/21, we collaborated with the Electric Power Research Institute (EPRI) – a non-profit organisation. We jointly developed a methodology for evaluating reliable low-carbon solutions that can meet the same operational requirements as the traditional standby diesel generator fleet. Hydrotreated vegetable oil was identified as a potentially suitable replacement.

Project benefits

- Replacing a diesel generator to hydrotreated vegetable oil could cut back CO₂ emissions up to 90%.

What's next?

We are now planning to put these findings into action and start to replace some of our own diesel generators. Some of our diesel power generators are ready to retire and ready for replacement, giving us a great opportunity to procure a more sustainable alternative.



Case study – preparing our network for greener gases

Background

Emissions of sulphur hexafluoride (SF₆) make up a large proportion of our carbon emissions. Replacing SF₆ with alternatives is one of the biggest environmental contributions we can make. Work to find an alternative has been a key focus in recent years. During 2016/17, we energised our Green Gas for Grid (g3) project at Sellindge in Kent, becoming the world's first 400 kV network to use g3, which has a global warming potential 98% lower than SF₆. Since then, we have continued to investigate other alternatives to SF₆.

What did we do?

- **SF₆ management and alternative gases:** We have continued our work to look at other potential gases, such as CF3I, testing their dielectric and long-term stability properties. However, we haven't established further alternatives for a single gas that meets all our needs.
- **Alternatives for SF₆ for retro-filling existing equipment:** If we're to remove SF₆ from our operations by 2050, there are two main options open to us. We could replace our assets with new ones

that are designed to be compatible with alternatives to SF₆. But we believe a more efficient way – and one that comes at significantly less cost to consumers – is to use an alternative gas in our existing assets wherever we can. Our collaborative project with the University of Manchester and 3M has been about finding the right balance between testing the right mix of 3M's Novec™ 4710 and CO₂ and finding the right operating pressure at which its performance most closely mirrors that of SF₆. Last year we found that we can mirror the performance of SF₆ using a roughly 80/20 mixture of CO₂ and Novec™ 4710. Since then, we've done further work to test operating pressure and develop our understanding of the mixture we could potentially use.

Project benefits

- Roughly 80/20 mixture of CO₂ and Novec™ 4710 could reduce TCO₂ by approx. 98%.
- Our work in this area has influenced the market's debate and approach to retro-filling assets, with some suppliers now developing retro-fill solutions.

What's next?

For RIIO-T2, we expect to continue examining the application of alternative gases – especially as more of it comes onto the network. Our focus will be on preparing our assets, considering health and safety, long-term performance, degradation and monitoring techniques.



Investigate alternatives to gases

Roughly 80/20 mixture of CO₂ and Novec™ 4710 could mirror SF₆ performance.

Target: Investigate alternatives to gases (i.e SF₆) with a lower Global Warming Potential (GWP) and share status for transmission applications with industry.



Implementation of new technologies

HVO found to be a low-carbon alternative to diesel generators.

Target: Work collaboratively with research partners to accelerate the implementations of new environmental and low-carbon technologies.

Meeting the changing needs of customers and stakeholders

The Climate Change Committee made it clear that many areas of the economy must be electrified, such as transport and heating. As the energy system becomes more interdependent, we are critically considering how an integrated energy network incorporating electricity, gas, heat and transport could work.

Decarbonisation of transport

One of the most effective and impactful ways of helping the UK to achieve its decarbonisation goal of net-zero is the electrification of transport. Transport is now the largest contributing sector to UK emissions, and air pollution contributes to upwards of 36,000 deaths a year. How we move goods in and around the country – international, national and local deliveries – is important, particularly as last-mile deliveries have boomed during the pandemic.

In 2020/21, following our successful lobbying to tackle some of the infrastructure challenges for car and van electrification, we started looking at other parts of transport such as rail, buses and Heavy Goods Vehicle (HGVs). We engaged with Network Rail as part of the group's strategic goal to enable cross-vector decarbonisation. Within the HGV sector, we engaged with over 100 stakeholders across a diverse set of areas such as manufacturing, haulage and fleet companies, trade associations, BEIS, Government, Defra and the HM Treasury.

We used feedback as part of our engagement to ensure our position aligned with industry views and that it was constructive to the Department of Transport (DfT) Transport Decarbonisation Plan. The Transport Decarbonisation Plan aims to set out in detail what Government, business and society will need to do to deliver the significant greenhouse-gas emissions reduction needed across all modes of transport.

Looking ahead

Coordination and joined-up thinking within the transport sector from Government, through energy networks, down to small businesses will be essential to enable an efficient and timely rollout. The DfT published the Transport Decarbonisation Plan in July 2021. This plan will guide our future activities and refine our 2030 pathway for decarbonising transport.

EV policy success

Our thought leadership in this area has brought about some key policy successes for electric vehicles. The Prime Minister's Ten Point Plan set out to accelerate the transition to electric vehicles, ending the sale of new petrol and diesel cars and vans by 2030. The Government also committed £1.3bn towards electric vehicle (EV) infrastructure in the next four years, including £950m specifically for future-proofing the underlying grid infrastructure to enable EV charging infrastructure on the strategic road network. The £950 million of government funding covers transmission and distribution connections across the UK, targeting at least six high-power chargers in every motorway service station by 2023, aiming for 6,000 by 2035. This will enable drivers to be within 30 miles of a high-power charger across the motorway network, thus reducing range anxiety, supporting the wider uptake and deployment of passenger EVs and improving air quality.



Meeting the changing needs of customers and stakeholders (continued)



Future of heat

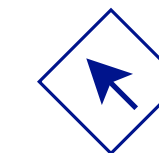
If we are to meet the UK’s goal of net-zero by 2050, one of the areas we need to transform is how we heat our homes, since the heating sector (across residential property, businesses and industries) accounts for 37% of UK emissions.

A Future of Heat Steering Group was created in 2019 to provide coordination between National Grid Electricity Transmission and National Grid Gas, with the overarching aim to provide input into the Government’s review of the future of heat.

In 2020/21, our efforts involved leading industry from the top-down, by taking an approach that starts from the bottom-up – listening to and learning from consumers and other stakeholders to influence Government policymaking on the future of heat:

- Using several small focus groups, with a total of 60 consumers from diverse demographic groups and from different areas of the country, we undertook stakeholder/consumer research around heat technologies to learn the current levels of consumer understanding.
- We commissioned an independent report on heating our homes; building on our understanding of what matters to consumers.
- We continued to support the production of Department of Business, Energy and Industrial Strategy (BEIS) Heat Road Map, culminating in the NG response to the consultation.
- Alongside this, we engaged widely with industry to gather external views, to share our findings and align our views.

We knew that consumers needed to be at the heart of the transition to lower-carbon homes, so it was vital that we listened to consumers to understand what they want from the move to low-carbon heating. Based on our focus group engagement, we proposed recommendations for Government and policymakers to consider. We have discussed and presented details of our report with BEIS and the CBI’s Heat Commission.



For more information on heating our homes in a low-carbon future, visit: <https://www.nationalgrid.com/document/134296/download>

Looking ahead

We will continue sharing the report findings with interested stakeholders, to raise the importance of decarbonising how we heat our homes and delivering the transition with the needs of consumers at its core. Heat policy needs to be coordinated so that areas such as energy efficiency, smart energy management, low-carbon energy and low-carbon heating are considered holistically for consumers, and that the heat challenge is considered from a whole-energy-system perspective.



Needs of future customers

We’ve engaged with key stakeholders across transport and heat to feed into Government’s Decarbonisation of Transport and Heat strategy.

Target: As new sectors seek electrification, work closely with industry to obtain and improved understanding of the needs of future customers.

ZERO 2050

South Wales

Needs of future customers

Completed the £1.2m “Zero-2050: South Wales” with the aim to work on a regional scale and with scope for learning about the whole-energy system.

Target: Develop and pilot new low-carbon solutions for new industry sectors, including transport and heat, to support UK business decarbonisation needs.

Putting sustainability at the heart of our decision-making

Strategic decisions made now will have long-lived and far-reaching environmental consequences. To ensure we build a sustainable network, we are putting environmental sustainability at the heart of our decision-making.

We evolved our business strategy

As we face the biggest challenges of our generation – climate change and more recently, a green recovery from the pandemic, we reviewed how we needed to adapt in order to deliver net-zero.

In 2020/21, we evolved our business strategy to better reflect our purpose and reviewed our strategic priorities in response to our business environment. This updated strategy reflects the belief that we have a responsibility to ensure that the energy future we help to shape is one where everyone shares its benefits.

Our new vision is: to be at the heart of a clean, fair and affordable energy future. Clean, because we want to enable the energy transition for the communities we serve; fair, because we want to help shape an energy future where everyone shares in the benefits and no-one gets left behind; and affordable, because energy bills should not be a burden as a result of the transition and families should be able to pay for all their basic energy needs. Figure 4 presents the four new strategic priorities to make this possible.

The first strategic priority – to enable the energy transition for all – gives us clear focus and empowers us to meet demanding emissions targets and speed up the transition to a clean energy system of the future.

Looking ahead

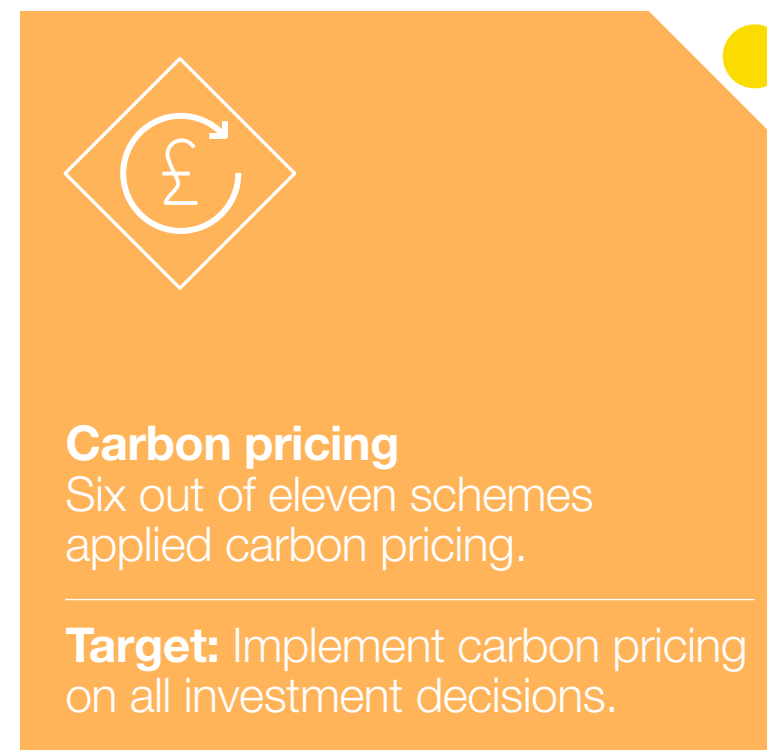
We are developing a new operating model to lead the energy future. In order to ensure we can effectively and efficiently deliver the financial, customer and regulatory outcomes that will help us on our journey towards net-zero, there was a cross-organisational review in December 2020 where we, as a company, decided to change the operating model. The aim is to begin the process of transitioning the whole business, our processes and systems over the remainder of 2021 and into 2022.

NGET will run as an end-to-end business, fully accountable for profit and loss, and fully responsible for all aspects of operations including safety, reliability, environmental performance, risk and compliance and crisis response. This will ensure simpler end-to-end delivery, will enable us to manage much more effectively and take further ownership of net-zero and delivery of environmental improvements.

Carbon pricing in investment decisions

In 2018 we adopted an internal price of carbon (£45/ tonne of carbon) in existing policies and procedures for investment decision-making and sanctioning. This in practice means that Investment Delivery Engineers multiply carbon emissions by the internal carbon price. The results are then taken to the Electricity Transmission Investment Committee to review. In 2020/21, six out of eleven schemes applied carbon pricing.

As part of our review of investment sanction papers, sustainability impacts are also more prevalent. Investment Engineers now must describe the opportunities and risks identified in the Sustainability Action Plan, with a key focus on carbon, the natural environment and SF₆. The new set of questions went live in April 2021.



Carbon pricing
Six out of eleven schemes applied carbon pricing.

Target: Implement carbon pricing on all investment decisions.

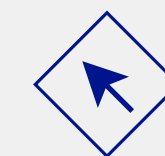
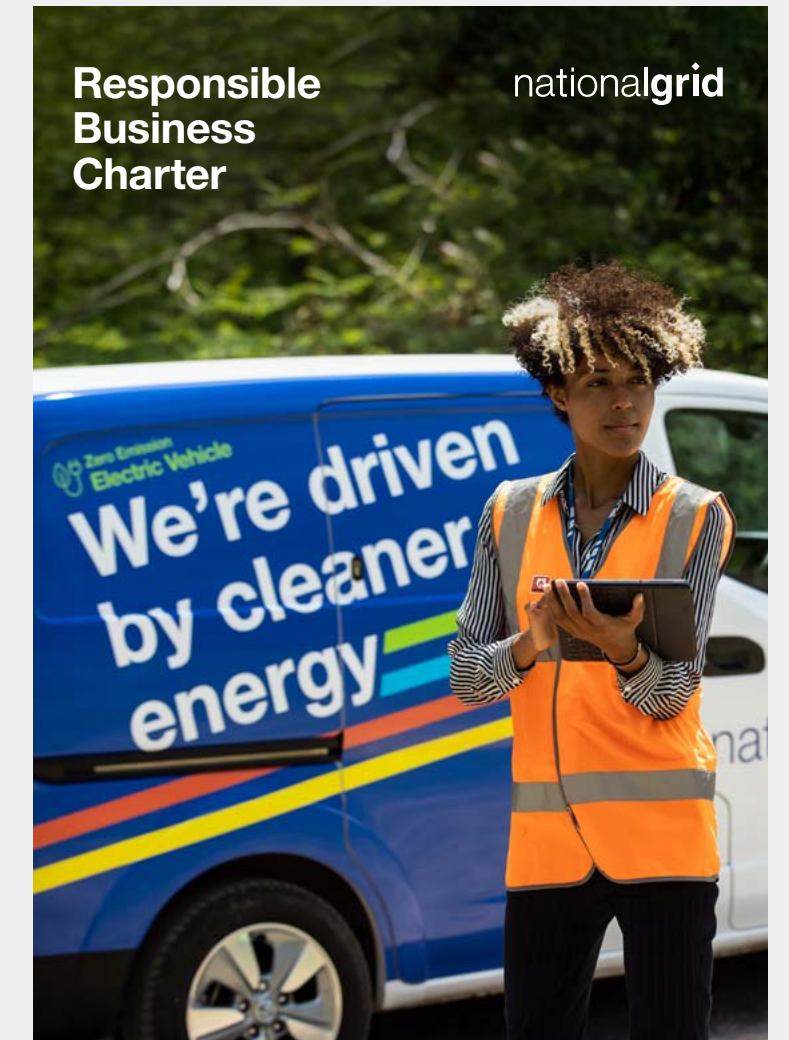
Responsible Business Charter

In October 2020, we published our Responsible Business Charter (for the first time) to pull together all our stakeholders' requirements under one umbrella and make a public commitment to deliver them. Corporate responsibility is not a new thing to us or to many other organisations, but we have never previously gone so far as to publicly commit to all our Responsible Business ambitions in one place. Bringing this together in one place for the first time makes our commitments clearer to our stakeholders and helps provide greater transparency around our commitments.

The charter looks at five areas of focus:

- The environment
- The communities we serve
- Our people
- The economy
- Our governance.

For each one, we have set commitments, specific targets and outlines of how these will be achieved.



For more information on our Responsible Business Charter, visit: <https://www.nationalgrid.com/document/134426/download>

Figure 4. National Grid Strategic Priorities

1 We'll enable the energy transition

2 We'll deliver for our customers effectively

3 We'll grow our organisational capability

4 We'll empower our people for great performance

Continuously exceed the expectation of our customers, stakeholders and communities

We strive to deliver high value, quality products and services that exceed the expectations of our customer and stakeholders.

Stakeholder satisfaction

We are under no illusions as to the scale of the challenges ahead. To meet our ambitious net-zero target to reduce our scope 1, 2 and 3 emissions, and to support the UK in its transition to net-zero, we must work with a range of stakeholders to achieve radical, step-change advances in technology, processes and behaviours.

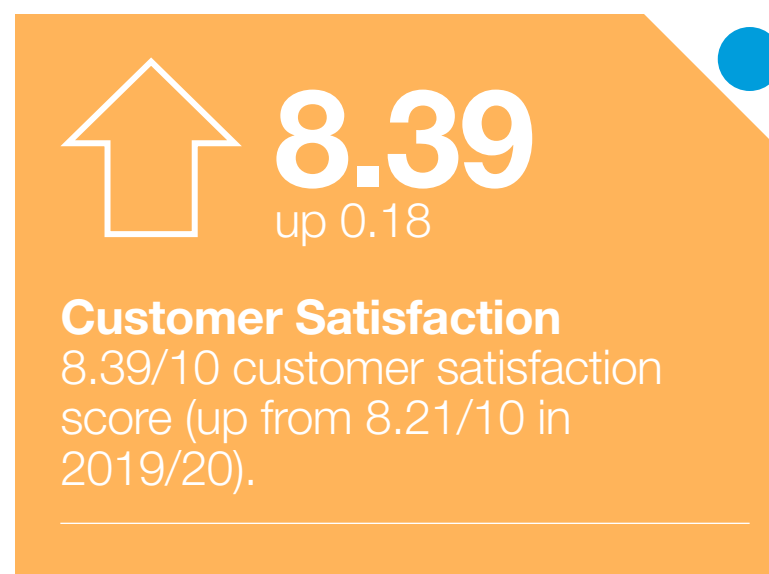
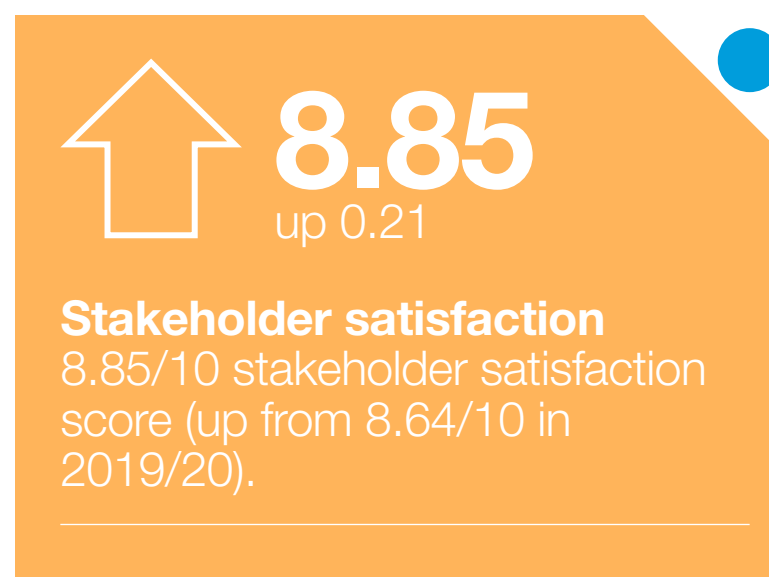
Our Stakeholder Engagement Strategy continues to set our direction for how we engage with our stakeholders. Providing a framework for how we will use engagement to support delivery of our stakeholder priorities. During 2020/21, we held many more one-to-one conversations with stakeholders rather than large-scale events. We engaged extensively in relation to the role we can play in the transition to a clean energy system. In 2020/21 we achieved a stakeholder satisfaction score of 8.85/10 – this is our highest stakeholder satisfaction score ever.

Following our latest annual health check (carried out by AccountAbility, who created the AA1000 standard and who assess against it worldwide), we are proud to say we have also

increased our score to 79%, placing us at the top “mature” level of their maturity ladder and meaning that we are now in the top 10% of all organisations assessed globally since 2012. This is the fifth consecutive year that we have increased our score.

Customer satisfaction

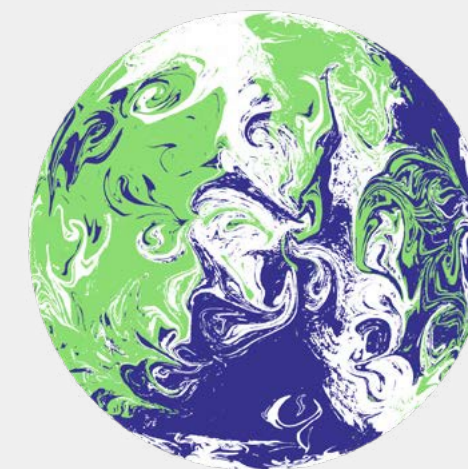
Customer satisfaction is an important measure, as feedback helps us identify potential improvements to our customer service levels. In 2020/21, our score was 8.39. We measure customer satisfaction across NGET on department level: Connections, Outages, Transmission Network Control Centre (TNCC), Construction and Operations and also wherever we interact with customers at events. This shows an improvement in our performance from a score of 8.21 last year and, given the amount of new connections received in the scheme year, we feel that this is quite an achievement.



Principal partners of COP26

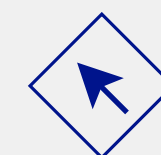
Climate change is a global issue, and the UK must use its own net-zero ambition to encourage other nations to adopt similar targets. In November 2021, the UK will host the United Nations Framework Convention on Climate Change, Conference of the Parties (COP26), bringing together world leaders, climate experts, business leaders and citizens to agree ambitious action to tackle climate change.

On the 16th November 2020, we were delighted to announce our decision to be a Principal Partner of this important global climate event. We see this as an opportunity to show our commitment to decarbonisation and to position ourselves with the UK Government as a trusted partner on the net-zero agenda.



PRINCIPAL PARTNER
UN CLIMATE CHANGE CONFERENCE UK 2021

IN PARTNERSHIP WITH ITALY

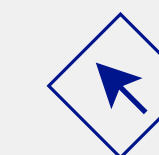


For more information on National Grid’s role in COP26, visit: <https://www.nationalgrid.com/responsibility/environment/cop26>

Supporting the green recovery

In 2020/21, we joined the **Race to Zero campaign** – a global effort from the United Nations Framework Convention on Climate Change that calls for a resilient, zero-carbon recovery from the Covid-19 pandemic. We are one of 30 FTSE100 companies that have signed up to the United Nation’s Race to Zero campaign – the largest ever global alliance committed to achieving net-zero carbon emissions by 2050.

National Grid CEO, John Pettigrew, also joined other business leaders to **sign a letter to the Prime Minister** calling for a clean, inclusive and resilient recovery plan for the UK. John joined over 200 business leaders in a call to action, asking the Prime Minister to ensure a clean, inclusive and resilient recovery plan from the Covid-19 pandemic. The letter sought to align the Government’s economic recovery plans with the UK’s wider social, environmental and climate goals.



For more information on the Race to Zero campaign, visit: <https://www.nationalgrid.com/stories/journey-to-net-zero-stories/race-zero-calls-clean-recovery-covid-19>

Progress towards our strategy

We made some good progress against our strategy, but while our performance reflects encouraging achievements, we did not meet all our commitments for 2021. There is still work to do to reach our near-term environmental sustainability ambitions, and much more work to be done during RIIO-T2.

Our energy	RAG status	2020/21 performance	Our planet	RAG status	2020/21 performance	Our future	RAG status	2020/21 performance
Reduce transmission related constraints by continuing to work closely with Distribution Network Operators on the development of materiality limits.		12 out of 12 DNOs are now using Appendix Gs. We are continuing to look at what we could do, once the materiality limit is used up to continue to minimise transmission related constraints.	Reduce our business carbon footprint by 20% from a 2012/13 baseline (excluding losses).		Our business carbon footprint decreased by 4% from a 2012/13 baseline.	Investigate alternatives to gases (i.e SF ₆) with a lower Global Warming Potential (GWP) and share status for transmission applications with industry.		We collaborated with 3M and University on Manchester on an innovation project to identify potential gas mixtures that could replace SF ₆ in existing assets, without needing to replace the whole asset.
Increase network capacity visibility through our network capacity heatmap.		We have developed a new suite of tools to help manage connections in addition to our Network Capacity Tool, such as ConnectNow.	Reduce the carbon intensity from construction design by 50% from a 2015/16 baseline.		We reduced the carbon intensity of our construction projects by 33% from a 2015/16 baseline.	Work collaboratively with research partners to accelerate the implementation of new environmental technologies and annually disseminate findings.		Hydrotreated vegetable oil (HVO) has been identified as a potentially suitable replacement.
Provide connections that are faster, by reducing the average time to develop a customer offer from 90 to 55 days.		Our time to develop a customer offer was 73 days.	Trial 30 Alternative Fuel Vehicles in ET's commercial fleet (100 percent replacement by 2030).		We deployed 60 electric vans in our commercial fleet.	Develop and pilot new low-carbon solutions for new industry sectors, including transport and heat, to support UK business decarbonisation needs.		We completed the £1.2m "Zero-2050: South Wales" with the aim to work on a regional scale and with scope for learning about the whole energy system.
Use our non-operational land and existing assets to facilitate renewables, storage assets and community energy connections.		We paused offering our non-operational land due unprecedented demand and to set up a process to offer these opportunities in future.	Maintain a landfill diversion rate of 95% from our operational waste.		Our operational landfill diversion rate was 94%.	Work closely with industry stakeholders to obtain an improved understanding of the needs of future customers, as new sectors seek electrification of processes to achieve decarbonisation.		Within the HGV sector we engaged with over 100 stakeholders across a diverse set of areas to understand their decarbonisation needs.
Deliver system flexibility by assessing new 'non-built' alternatives alongside conventional reinforcement into our network.		We deployed three SmartValves to put novel 'power flow control devices' into our network in 20/21.	Enhance the value of our natural assets on more than 30 sites.		We enhanced the value of our natural assets on 46 sites.	Implement carbon pricing on all major investment decisions by 2020.		Six out of eleven schemes applied carbon pricing.
When we invest to strengthen the capacity of our network, ensure we do so at a minimum whole-life costs for the benefit of consumers.		Retro Insulated Cross Arm (RICA) project is an innovation project that is aiming to strengthen the capacity of our network at the lowest cost to consumers.	Drive net-gain in environmental value (including biodiversity) on major construction projects.		63% of milestones were completed by 2020 in order to drive net-gain in environmental value on major construction projects.	Include carbon and environmental considerations as part of the evaluation criteria in our procurement tenders where relevant.		A 5% carbon weighting was used in 44 electricity transmission construction projects during the RIIO-T1 period.
			Begin work to reduce the visual impact of existing transmission assets in at least on AONB/national park.		Construction on the Dorset Area of Outstanding Natural Beauty began in September 2019 and will take three years to complete. We are also developing projects in North Wessex Downs AONB, Peak District National Park and Snowdonia National Park.	Ensure environmental risk and consequences, along with other factors, are considered in our decision-making for asset health interventions, such as maintenance or planned replacements.		A monetised risk approach has been developed to systematically evaluate environmental risk.
			Maintain accreditation to ISO 14001:2015 Environmental Management Standard.		We have retained our certification to the ISO:14001 2015 environmental management standard.	Continuously improve customer and stakeholder satisfaction.		Both customer and stakeholder satisfaction scores improved from last year – these were 8.2 and 8.6 respectively.
			Protect communities and sensitive areas by ensuring all our assets, on our land, are adequately risk assessed.		We have developed a risk register of each Electricity Transmission site against several environmental criteria.			

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

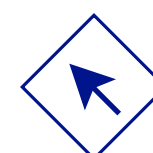
BRAG status

- Action is complete (100 per cent)
- Action is nearly complete (90-99 per cent)
- Action has minor issues (50-89 per cent complete)
- Action has major issues (0-49 per cent completed)
- Action not started/ paused

Environmental data and performance

Scope 1 & 2 greenhouse gas emissions	2020/21	2019/20	2018/19	2017/18
Scope 1 – loss of sulphur hexafluoride (SF ₆) (TCO ₂ e)	266,759	283,651	272,114	219,217
Scope 1 – fuel used for transport (TCO ₂ e)	4,717	6,528	6,798	11,616
Scope 2 – transmission losses (TCO ₂ e)	1,255,673	1,475,266	1,295,484	1,628,112
Scope 2 – energy use (TCO ₂ e)	16,784	18,295	20,006	27,559
Total business carbon footprint (including losses) (TCO ₂ e)	1,543,333	1,784,262	1,594,407	1,886,503
Total business carbon footprint (excluding losses) (TCO ₂ e)	287,660	305,232	298,922	258,391
Scope 3 greenhouse gas emissions	2020/21	2019/20	2018/19	2017/18
Capital carbon intensity from construction (tonnes/ £m)	159	163	117	145
Treatment of waste	2020/21	2019/20	2018/19	2017/18
Operational waste diverted from landfill (%)	94	97	93	95
Fluid filled cables	2020/21	2019/20	2018/19	2017/18
Cable fluid loss (litres)	7,050	5,416	9,717	8,561
Recovered litres (%)	36	25	44	25
Transformer oil top-ups	2020/21	2019/20	2018/19	2017/18
Total top-ups (litres)	692,110	463,140	386,082	475,846
Caring for the natural environment	2020/21	2019/20	2018/19	2017/18
Sites with a sustainability action plan (# of sites)	46	40	29	21
Environmental Management System coverage	2020/21	2019/20	2018/19	2017/18
Share of employees in scope by our EMS (%)	100	100	100	100
Environmental incidents	2020/21	2019/20	2018/19	2017/18
Significant environmental incidents (internal categorisation to promote continual improvement) (# of incidents)	8	2	3	2

Low-carbon connections	2020/21	2019/20	2018/19	2017/18
Low-carbon generation supported by our network (gigawatts)	19.0	18.4	16.7	16.2
Low-carbon generation connected to our network (giga-watts) in scheme year	0.6	1.5	0.5	0.3
Proportion of generation connected that is renewable (%)	30.5	29.5	25	25.8
Quality of connections	2020/21	2019/20	2018/19	2017/18
Customer applications (#)	355	207	150	82
Timeliness of connections	2020/21	2019/20	2018/19	2017/18
Average time to develop and issue a customer offer (days)	73	72	75	60
Quality of connections	2020/21	2019/20	2018/19	2017/18
Customer satisfaction (out of 10)	8.39	8.2	7.9	7.7
Stakeholder satisfaction	2020/21	2019/20	2018/19	2017/18
Stakeholder satisfaction (out of 10)	8.85	8.6	7.9	7.9
Carbon pricing used for investment decisions	2020/21	2019/20	2018/19	2017/18
Internal carbon price (£/ per tonne of carbon)	45	45	45	-



For more information on our environmental performance, visit:
<https://www.nationalgrid.com/uk/electricity-transmission/planning-together-riio/our-environmental-future/environmental-performance>

Initiatives aligned to the UN Sustainable development Goals

Our environmental statement outlines our progress in line with our Environmental Strategy, highlighting the significant initiatives that contribute to sustainability, environmental enhancement and low-carbon objectives and are aligned to the United Nations Sustainable Development Goals (SDGs).

The 17 UN SDGs show us what a sustainable future looks like. We have reviewed the Global Goals to understand how they relate to what we do and identify where we can make the biggest contribution.



Theme	Initiative	Alignment to the SDGs
Our energy	Connecting for a low-carbon future	7 AFFORDABLE AND CLEAN ENERGY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 13 CLIMATE ACTION
	Whole-system planning	7 AFFORDABLE AND CLEAN ENERGY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION
	Enabling the energy system of the future	7 AFFORDABLE AND CLEAN ENERGY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION
Our planet	Our climate commitment	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION
	Responsible resource use	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION
	Caring for the natural environment	11 SUSTAINABLE CITIES AND COMMUNITIES, 15 LIFE ON LAND
	Excellent environmental management	6 CLEAN WATER AND SANITATION, 11 SUSTAINABLE CITIES AND COMMUNITIES, 14 LIFE BELOW WATER, 15 LIFE ON LAND
Our future	Innovative thinking	7 AFFORDABLE AND CLEAN ENERGY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 13 CLIMATE ACTION
	Meeting the changing needs of customers and stakeholders	7 AFFORDABLE AND CLEAN ENERGY, 8 DECENT WORK AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION
	Putting sustainability at the heart of our decision making	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION
	Continuously exceeding the expectations of our customer, stakeholder and communities	7 AFFORDABLE AND CLEAN ENERGY, 11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION, 15 LIFE ON LAND

Looking ahead

RIO-T2 Environmental Action Plan (2021–2026)

In 2019/20 we developed a new Environmental Action Plan for 2021–2026, focused mainly on how we will operate in an environmentally sustainable way. This plan was signed-off by Ofgem as part of final determinations in December 2020. In the plan, we concentrate on the appropriate steps we are taking to mitigate our own environmental impact.

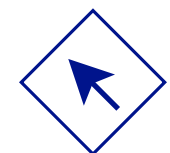
At the heart of our strategy are four environmental priorities:

- **Net-zero carbon emissions:** By 2026, we will be reducing scope 1 and 2 emissions by 34% from a 2018 baseline and all construction undertaken will be carbon-neutral.
- **Minimise waste and sustainable use of materials:** By 2026, we will achieve zero waste to landfill across key areas of waste and use circular economy principles to make the most of natural resources and our assets.

- **Caring for the natural environment:** We will value nature and will protect and enhance it where possible using “natural capital” and “net-gain” principles. By 2026, we will improve the natural environment by 10% on the land we own and have set a 10% net gain in environmental value target on all construction projects, to ensure that this practice is completed as standard in our operations.

- **Leading the way:** As environmental leaders, we will be setting a good example for others and helping them follow so that no-one is left behind.

Our Environmental Action Plan will be our handbook to further reduce our carbon emissions, reduce our resource use, improve our natural environment and demonstrate leadership for change.



For more information on our 2021–2026 Environmental Action Plan, visit: <https://www.nationalgrid.com/uk/electricity-transmission/document/136551/download>

Electricity Transmission

Our 2021–2026 Environmental Action Plan

April 2021

nationalgrid

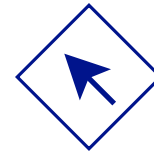
Let us know what you think

We welcome all feedback – because it helps us make sure we’re focusing on the right areas and delivering the right things.

We’d really like to receive your views and ideas on these six questions:

- Do you think we are doing enough to manage the transition to a low-carbon future?
- Do you think we are doing enough to manage our impact on the environment?
- Do you agree with our key areas of focus?
- Is there anything else you would like us to include in the Annual Statement?
- Is the statement easy to navigate/read?
- Is there anything else you would like to comment on or share with us?

You can either use the survey link to respond, e-mail your responses to .box.ET.Environmental@nationalgrid.com, or tweet us using the hashtag #SustainableNGET. You can also use the above e-mail address for queries and to ask for more information.



Here’s the link to our survey:
<https://www.surveymonkey.co.uk/r/N9PCPDP>

To keep up to date on key environmental issues relating to National Grid Electricity Transmission visit us online:
<https://www.nationalgrid.com/uk/electricity-transmission/planning-together-riio/our-environmental-future>



Glossary of terms

BCF	Business Carbon Footprint
CDP	Carbon Disclosure Project
CO₂	Carbon Dioxide
CCC	Committee of Climate Change
COVID-19	Coronavirus disease 2019
DNO	Distribution Network Operator
EDR	Environmental Discretionary Reward
ELAS	Executive Level Annual Statement
ETYS	Electricity Ten Year Statement
EMS	Environmental Management System
EV	Electric Vehicles
FES	Future Energy Scenarios
GHG	Greenhouse Gas
GW	Gigawatt
ISO	International Organisation for Standardisation
NGET	National Grid Electricity Transmission
NGESO	National Grid Electricity System Operator
NOA	Networks Options Assessment
Ofgem	The Office of Gas and Electricity Markets
RIIO-T2	Revenue = Incentives + Innovation + Outputs (Transmission period 2)
SBT	Science Based Target
SF₆	Sulphur Hexafluoride
RICAs	Retrofitted insulated cross-arms
tCO₂e	tonnes of Carbon Dioxide equivalent
TO	Transmission Owner
VIP	Visual Impact Provision



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