

**Electricity
Transmission**

Our Annual Environmental Report

14/10/22

Paul de Jong

NGET Environment & Sustainability Manager

Chris Plester

NGET Sustainability Technical Lead

nationalgrid



Agenda

Our 2021-2026 Environmental Action Plan

Our FY2022 performance

Your feedback and questions



**Electricity
Transmission**

**Our 2021-2026
Environmental
Action Plan**

nationalgrid



RIIO-T2 – Delivering a sustainable electricity network

In the July 2018, RIIO-2 framework decision document, Ofgem stated that “**network companies must play a stronger role in minimising their environmental impact and facilitating the decarbonisation of the energy system**”, and that “**RIIO-2 has to endeavour to mitigate the impact of networks on the environment**”.

Ofgem set out that companies should embed environmental considerations in their RIIO-T2 business plans in the form of **an Environmental Action Plan (EAP)**.

A licence obligation was created for National Grid Electricity Transmission and other networks to produce an Annual Environment Report (AER).



NGET published it's EAP on 22 April 2021 – Earth Day

Environmental Action Plan (EAP) methodology

We carried out a materiality assessment to understand where we could make the greatest contribution to a more sustainable future, as we build and maintain electricity assets. This followed a six-step process:

2018

2019

2020

Step 1: Identifying issues

We carried out a comprehensive review of the environmental impacts created by our network. This ensured that all our significant risks had been considered.

Step 2: Defining materiality

An issue was considered material if it met one of these three conditions:

1. Important to stakeholders or is a concern in the scientific community/ policy circles.
2. It's an environmental aspect that is considered high risk/ high opportunity.
3. It is required by Ofgem, for the inclusion of the plan.

Step 3: Assessing the external landscape

We reviewed material issues against upcoming legislation, macrotrends, global sustainable frameworks and internationally recognised environmental standards.

Step 4: Target setting

When assessing what targets to apply to material areas, we followed two approaches:

1. What to (target oriented): this approach was followed when there was a direct policy or scientific target.
2. What if (scenario oriented): this approach was followed when little policy or scientific guidance was available. We looked at our performance to date and what could be achieved in five years.

Step 5: External stakeholder perspectives

We obtained external stakeholder feedback. This was an integral part of the process to ensure we were focusing on the right areas, and setting challenging targets. Expert bodies were engaged to confirm targets and measures.

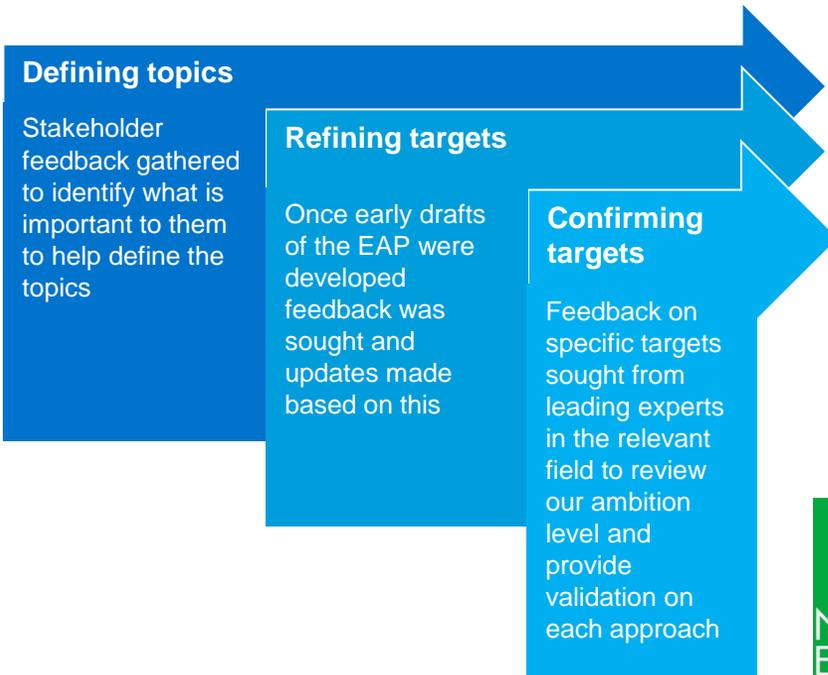
Step 6: Validation of targets

We revised our targets based on what stakeholders told us. These 25 targets were then approved internally by our Board

Stakeholder feedback

Stakeholder feedback has been an integral part of the process throughout defining the EAP and has been on-going throughout development and now in delivery.

EAP stakeholder engagement process



Types of expert bodies engaged



Stakeholder engagement in numbers

- **2018 Environmental workshop** – 31 attendees
- **2018 Populus Consumer research including Prioritisation** -3,056 Nationally representative sample of the public and 621 Small to Medium sized business consumers.
- **2019 responsible procurement webinar** – 51 stakeholders
- **2019 - Net zero SF6 Replacement Proposal - International Webinars** -15 stakeholders
- **2019 expert engagement** – 10 expert bodies
- **2020 Formal Engagement presentation and challenge** - Ofgem Challenge Group Members

NGET's Environmental Action Plan

In our Environmental Action Plan, we committed to four priority areas where we can make the greatest contribution to a more sustainable future. Our priority areas respond to – and are driven by – those that are most significant to our stakeholders and our business.

It is our handbook to reduce our carbon emissions, reduce our resource use, improve our natural environment and demonstrate leadership for change.



Net zero carbon emissions

We are reducing our direct emissions in line with science based targets and deliver carbon neutral construction



Minimise waste and sustainable use of materials

We are finding ways to achieve zero waste to landfill and using circular economy principles to make the most out of natural resources and our assets



Nature positive

We are valuing nature. We are protecting and enhancing it where possible –using natural capital and net gain principles



Leadership for change

We are being leaders in our industry to advance environmental good practice

2021 – 2026 environmental commitments

Priorities	Net zero carbon emissions	Minimise waste and sustainable use of materials	Nature positive	Leading the way
Ambitions	We will reduce our direct emissions in line with science based targets and deliver carbon neutral construction	We will achieve zero waste to landfill and use circular economy principles to make the most out of natural resources and our assets	We will value nature, and will protect and enhance it where possible using 'natural capital' and 'net gain' principles	We will be leaders in our industry to advance environmental good practice
Commitments	<p>By 2026, NGET will:</p> <p>Achieve 34% reduction in controllable scope 1 and 2 emissions from a 2018/19 baseline, with additional targets of: 50% reduction by 2030 and net zero by 2050</p> <p>Reduce carbon emissions for our business transport by 10% on 2013-2020 averages</p>	<p>By 2026, NGET will:</p> <p>Achieve zero waste to landfill across our construction projects</p> <p>Reduce the waste tonnage (from a 2018/19 baseline) water use (from a 2019/20 baseline) at our offices by 20%</p>	<p>By 2026, NGET will:</p> <p>Increase environmental value of non-operational land by 10% against a natural capital/ biodiversity baseline</p> <p>Deliver Net Gain by at least 10% or greater in environmental value (including biodiversity) on all construction projects (including those delivered by third parties building on our land).</p>	<p>By 2026, NGET will:</p> <p>Have senior leadership accountability which reflects our corporate focus on the environment</p> <p>Work collaboratively with the other Transmission Owners to develop a consistent approach to capital carbon management</p>
	<p>Purchase 100% of electricity we use from renewables</p> <p>Create a transmission losses strategy</p>	<p>Reduce the waste intensity of our construction projects year on year</p> <p>Pilot and implement circular economy principles by aligning our business to international recognised standards, e.g. BS 8001 - circular economy standards</p>	<p>Have an engaged workforce on environmental issues that lead by example</p> <p>Work collaboratively with the other Transmission Owners to develop and pilot a common and robust methodology for assessing Natural Capital Impacts and opportunities (associated with Electricity Transmission activities)</p>	<p>Take bold steps to tackle our SF6 emissions and stimulate the market to more rapidly meet our stakeholders needs</p> <p>Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups</p>
	<p>Create a substation energy efficiency programme</p> <p>Deliver carbon neutral construction</p>	<p>Increase our construction recycling and composting rates and set a target from a 2021/22 baseline</p> <p>Align our Procurement Strategy to international recognised standards, e.g. ISO20400 Sustainable Sourcing Standard</p>	<p>Take bold steps to tackle our SF6 emissions and stimulate the market to more rapidly meet our stakeholders needs</p> <p>Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups</p>	<p>Take bold steps to tackle our SF6 emissions and stimulate the market to more rapidly meet our stakeholders needs</p> <p>Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups</p>
	<p>Focus on an efficiency-first approach to decrease the carbon emissions from our office energy use by 20% from a 2019/20 baseline</p> <p>Replace 60% of our fleet with Alternative Fuel Vehicles (AFVs)</p>	<p>Increase our operational and office recycling rates from 45% and 46% (respectively) to 60%</p> <p>Maintain our high standards of oil containment and pollution management</p>	<p>Take bold steps to tackle our SF6 emissions and stimulate the market to more rapidly meet our stakeholders needs</p> <p>Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups</p>	<p>Take bold steps to tackle our SF6 emissions and stimulate the market to more rapidly meet our stakeholders needs</p> <p>Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups</p>
	<p>SD goal</p>			

Electricity Transmission

Poll 1

What do you think?

- Do you feel the level of ambition in our EAP is right ?
- Do you feel that our EAP focusses on the right priority areas?



Our commitment to review strategy and commitments

We will continue to refine and improve our strategy if there are policy changes or if the science tells us we need to act faster. In December 2021, we did the first review of our strategy. We carried out the following:

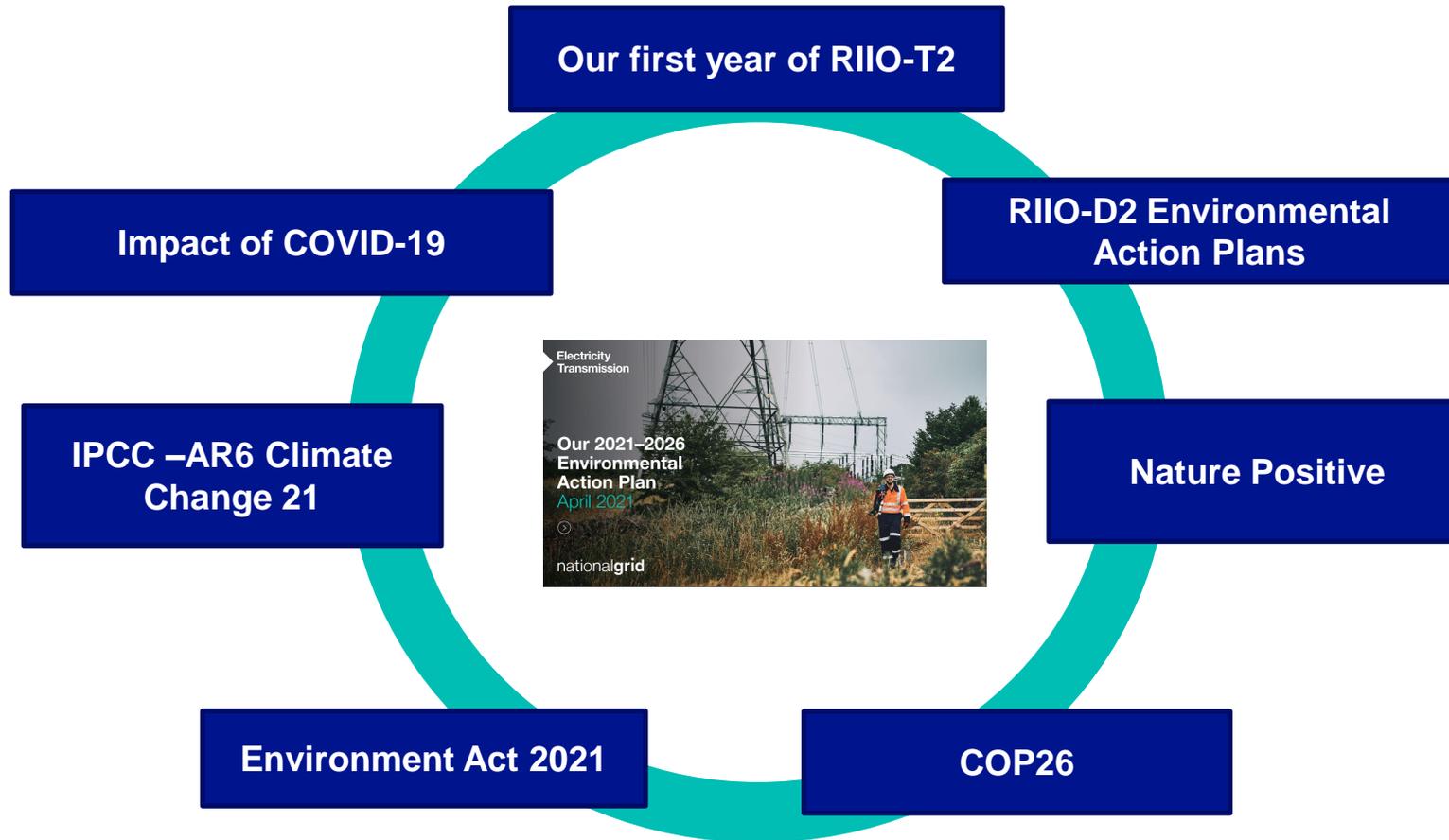


- **An internal review:** this included an assessment of:
 - Internal changes,
 - Maturity levels, and
 - Our environmental impacts



- **An external review:** this included an assessment of:
 - Policy changes/ updates
 - Scientific and stakeholder consensus
 - New standards, and
 - External benchmarking

Annual EAP review Dec 2021



As an outcome of this review we have added new commitments to our EAP from FY23, this includes:

- A commitment to install 252 charging sites in ET and for 100 % of Band A-C company cars to be EVs by 2026
- Phasing down the use of diesel generators where commercially and technically viable by 2026
- Establishing a baseline and developing an oil leakage reduction strategy by 2023

We shared the outcome of our review in February 2022 with external stakeholders for feedback.

**Electricity
Transmission**

**Our FY2022
performance**

nationalgrid



Our Annual Environmental Report

We published our first Annual Environmental Report on the 30th September 2022.

Data and statements verified by ERM
CVS

Our report provides a progress update on how we are achieving our environmental commitments as set out in our Environmental Action Plan



Overall Summary – Page 44

Net zero carbon emissions		Sustainable use of resources		Nature positive		Leadership for change				
EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update	
			FY22	FY23	FY24	FY25	FY26			
Achieve net zero for our scope 1 and 2 emissions by 2050, with interim targets of: 34% by 2026 and 50% by 2030.	% reduction in CO ₂ e.	Reduction in scope 1 and 2 emissions (excluding losses) in line with a 1.5 trajectory.	-6.8%	-13.60%	-20.40%	-27.20%	-34%	G	-16.4% reduction in scope 1 and 2 emissions achieved in FY22. This was greatly due to reductions in SF ₆ leakage.	
Purchase 100% of electricity use from renewables.	% of renewable energy supplied.	No greenhouse gas emissions from fossil fuels.		Prepare for the Powered purchase agreement (PPA) to be in place.	Powered purchase agreement (PPA) in place.	100% of renewable energy supplied. TBC	100% of renewable energy supplied. TBC	100% of renewable energy supplied. TBC	G	Power Purchase Agreement to be in place in FY22/23.
Create a substation energy efficiency programme.	Programme with annual milestones established.	Achievement of optimal carbon savings and return on investment.		Set up programme strategy.	Obtain Energy Performance Certificates for 50 nominated sites and utilise the recommendations to provide a plan.				G	Programme strategy and annual milestones set up.
Focus on an efficiency-first approach to decrease the carbon emissions from our office energy use by 20% from a 2019/20 baseline.	% reduction in CO ₂ from energy use.	Reduction in carbon emissions from energy use in our offices.	-4%	-8%	-12%	-16%	-20%	G	-19.3% in carbon from energy use achieved in FY22.	
Replace 60% of our fleet with Zero Emission Vehicles (ZEVs).	% of vehicles replaced with ZEVs.	Reduction in carbon emissions from operational travel.	+10%	+19%	+27%	+43%	+60%	G	10% target achieved in FY22 with 87 electric fleet vehicles.	
Reduce carbon emissions for our business transport by 10% on 2019-2020 averages.	% reduction in CO ₂ e.	Reduction in carbon emissions from business travel.	-2%	-4%	-6%	-8%	-10%	G	-39.8% in carbon emissions from business travel achieved in FY22.	
Create a transmission losses strategy.	Strategy established and annually reviewed.	Reduction in carbon emissions from transmission losses that are in our control.		Create transmission losses strategy.	Create transmission losses strategy as not delivered in FY22.				A	Recruitment is underway to ensure resources in place to deliver the Tx Losses Strategy update in FY23, following on from R10-T11 published position.
Deliver carbon neutral construction.	Net zero construction is achieved by emissions reductions and offsetting.	Reduction in capital carbon from construction projects.	10% year-on-year reduction.	10% year-on-year reduction.	10% year-on-year reduction.	10% year-on-year reduction.	Carbon neutral construction.	A	4.5% increase in capital carbon intensity from FY21.	
75% of National Grid's top 250 suppliers (by category/spend) will have carbon reduction targets.	% of suppliers with carbon reduction targets.	Reductions in carbon emissions from our supply chain.	+70%	+72%	+73%	+74%	+75%	G	74% of UK allocated suppliers within the top 250 have carbon reduction targets in FY22.	

Net zero carbon emissions		Sustainable use of resources		Nature positive		Leadership for change			
EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update
			FY22	FY23	FY24	FY25	FY26		
Increase environmental value of non-operational land by 10% against a natural capital/biodiversity baseline.	% increase in environmental value.	Land is managed in ways that protect and enhance the natural environment whilst also creating value for stakeholders and local communities.	+1%	+3.25%	+5.50%	+7.75%	+10%	G	1.4% enhancement in natural capital achieved in FY22 via partnership agreements and habitat management plans introduced across 4 sites.
Deliver net gain by at least 10% or greater in environmental value (including biodiversity) on all construction projects (including those delivered by third parties building on our land).	% of projects delivering net gain.	Biodiversity enhancements that contribute towards local, regional and national objectives for nature conservation.	100% of projects meet 10% net gain.	G	100% of ET projects committed to deliver 10% net gain or greater. 9/10 schemes that passed our sanction stage committed to deliver 15% net gain.				

Net zero carbon emissions		Sustainable use of resources		Nature positive		Leadership for change				
EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update	
			FY22	FY23	FY24	FY25	FY26			
Achieve zero waste to landfill across our construction projects.	% diverted from landfill.	Zero waste to landfill in our construction projects.	Achieve 100% diverted from landfill.	Maintain 100% diverted from landfill.					G	100% landfill diversion achieved in FY22.
Reduce the waste intensity of our construction projects year-on-year.	% reduction in waste intensity (Tonnes of waste/£M).	Reduction in waste intensity in construction projects.	Baselining and set target for the rest of T2.	Set target for rest of T2 as not delivered in FY22.	TBC	TBC	TBC		A	87TOM waste intensity performance achieved in FY22. Target to be set in FY23 once there is a better understanding of waste creation via different asset types in the respective delivery units.
Increase our construction recycling and composting rates and set a target from a 2021/22 baseline.	% increase in recycling and composting rates.	Increase in waste recycling in construction projects.	Baselining and set target for the rest of T2.	Set target for rest of T2 as not delivered in FY22.	TBC	TBC	TBC		A	77.9% construction recycling performance achieved in FY22. Target to be set in FY23 once there is better understanding of the dataset and benchmarking against other companies and industries has taken place.
Increase our operational and office recycling rates from 45% and 46% respectively to 60%.	% increase in recycling rates.	Increase in waste recycling across our operations and offices.	48%	50%	53%	57%	60%	G	52.8% operational recycling rate and 53% office recycling rates respectively achieved in FY22.	
Reduce the waste tonnage (from a 2018/19 baseline) and water use (from a 2019/20 baseline) at our offices by 20%.	% reduction in waste tonnage & % reduction in water tonnage.	Reduction in waste tonnage and water use in our office.	-2%	-4%	-6%	-8%	-20%	G	-55% in waste tonnage and -53% in water use was achieved in FY22.	
Plot and implement circular economy principles by aligning our business to internationally recognised standards, e.g. BS:8001 – Circular Economy Standard.	Alignment to BS:8001 standard – Circular Economy Standard.	Minimisation of waste and carbon.	Gap analysis against standard developed.	Socialise outcomes of gap analysis and agree ambition and next steps.	TBC	TBC	TBC		G	First gap analysis in relation to the BS:8001 circular economy principles has been completed.
Align our Procurement Strategy to internationally recognised standards, e.g. ISO 20400 Sustainable Sourcing Standard.	Alignment to ISO 20400 standard – Sustainable Procurement Guidance Standard.	Increase in sustainable use of materials.	Gap analysis against standard and carry out process improvements against agreed action plan.						G	A gap analysis exercise was completed in FY22 showing an overall improvement against criteria.
Maintain our high standards of oil containment and pollution management.	Continuous certification to ISO14001 standard and demonstration of continuous improvement.	Reduction in environmental incidents and pollution management.	We will maintain certification to ISO14001 standard. Visit 70 ET sites to undertake environmental support visits.	Obtain standalone ET ISO14001 certification. Visit 50 ET sites to undertake environmental support visits.	We will maintain certification to ISO14001 standard.	TBC	TBC	TBC	G	ET is currently certified to ISO14001 until January 2023. A total of 64 site visits were completed across ET in FY22.

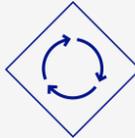
Net zero carbon emissions		Sustainable use of resources		Nature positive		Leadership for change				
EAP commitment	Metric	Description and expected benefit	Implementation milestones					RAG	Status update	
			FY22	FY23	FY24	FY25	FY26			
Have senior leadership accountability which reflects our corporate focus on the environment.	% of Band As, Bs and Cs with environmental objectives.	Environmental leadership.	Set up leadership objectives and accountability matrix.	75%	78%	80%	83%	85%	G	Each executive member of ET is now accountable for one or more commitments in the EAP plan.
Have an engaged workforce on environmental issues that lead by example.	Employee engagement survey satisfaction score.	An engaged workforce.							A	72% employee engagement score achieved in FY22, an improvement of 1% from last year's score. Further engagements planned to increase score.
Take bold steps to tackle our SF ₆ emissions and stimulate the market to more rapidly meet our stakeholders' needs.	No procurement of SF ₆ when there are alternatives available in the market.	SF ₆ alternative market stimulation.	No further procurement of new assets containing SF ₆ for use on the 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.						G	No procurement of new assets containing SF ₆ for use on the 132kV, 66kV and 13kV (tertiary) systems and new gas insulated busbar (GIB) and gas insulated line containing SF ₆ completed in FY22, where it is commercially available.
			Secure business commitment to progress the procurement and installation of non-SF ₆ assets where available.		Stop using 276/400kV SF ₆ assets in new builds by 2024 (once 2 solutions are available).				G	No further procurement of 275kV or 400kV circuit breakers containing SF ₆ (AIS & GIS) from 2026.
Work collaboratively with the other Transmission Owners to develop a consistent approach to capital carbon management.	Terms of references agreed with the Scottish TOs.	Cross collaboration and consistent approach on capital carbon.	Publish common methodology and data set.	Improve common data set and share best practice.	Share best practice for low-carbon construction.				G	Common methodology and data set published in Supply Chain Sustainability School.
Work collaboratively to develop and pilot a common and robust methodology for assessing Natural Capital Impacts and opportunities (associated with Electricity Transmission activities) that reflects best practice, complements biodiversity net gain and delivers measurable and quantifiable benefits.	To be agreed with the Scottish TOs – define once tool is published.	Cross collaboration and consistent approach on natural capital.	Contribute to common Natural Capital industry tool and methodology development.	Agree the use of industry recognised natural capital tool with Scottish TOs and implement tool internally.	Further implementation and best practice sharing.				A	Common tool and methodology on track to be developed in FY23. A review of off-the-shelf products, now shortlisted to two.
Be an environmental leader for the energy industry by actively contributing and shaping the discussions in external working groups.	# of groups and meetings attended externally on environmental sustainability.	Shaping external discussions on environmental issues.	Full disclosure of memberships, influencing networks, and working groups – and any outputs associated to them e.g. contributing to developing standards and informing government.						G	Environmental leadership for the energy industry demonstrated by our contribution and shaping discussions in external working groups.

FY22 performance at a glance

Net zero carbon emissions

	-34% by 2026 scope 1 and 2 emissions target accredited by the SBTi
	-16.4% in scope 1 and 2 emissions against 2018/19 baseline
	10% vehicles on our light duty fleet are zero emissions vehicles
	+4.5% increase in capital carbon intensity

Minimise waste and sustainable use of materials

	100% diversion from landfill across our construction projects
	78.9% construction waste recycled
	53% recycling rate across our office and operations

Nature positive

	1.4% improvement in environmental value in our non-operational land
	100% of construction projects achieved net gain of at least 10% (including one project subject to external planning)
	15% net gain commitment on six construction projects

Leadership for change

	100% directors are accountable for our environmental commitments
	Partnership with Hitachi Energy's EconiQTM to trial an SF6 alternative of gas-insulated switchgear
	Created ROCCIT to develop a consistency approach to capital carbon

EMS certified to ISO:14001

Overall Performance Summary

We have made good progress against our commitments

	Net Zero Carbon Emissions	Minimise waste and sustainable use of materials	Nature positive	Leadership for change
Progress against the implementation milestones is on track	7	6	2	4
Progress is delayed but likely to be achievable before the end of the price control period	2	2	-	2

Plans and actions in place to address these areas

- Create transmission losses strategy -
- Delivery Carbon Neutral Construction
- Reduce waste intensity of our construction projects
- Increase our construction recycling and composting rates
- Have and engaged workforce on environmental issues
- Develop common tool for measuring and valuing Natural Capital

External Feedback

We shared our EAP review and AER with the Independent User Group to gather insight and insights – some areas suggested below

- 1. Visibility of key Dependencies**
- 2. Highlighting the challenges**
- 3. Better framing of the natural environmental crisis**
- 4. Language and terminology**

What we have done

We made some changes related to language and terminology.

1. Aligned to the terminology used by our stakeholders i.e using zero emissions vehicles (ZEVs) and using Nature positive
2. Added granularity/ detail on some of our commitments to demonstrate the full picture of what we are doing i.e. adding our commitments on EV charging and company cars.
3. We added further commitments, although qualitative in nature, we want to show our willingness to do more in these areas.

Electricity Transmission

Poll 2

What do you think?

- In your opinion do you feel we have shown strong performance in our first year?



Electricity Transmission

Poll 3

What do you think?

- Are there any key areas of challenge and risk that we must address the future?



Poll 5

What do you think?

- Our Annual Environmental Report (AER) is well produced informative and easy to read
- Do you feel we engage with our external stakeholders enough?



**Electricity
Transmission**

**Your feedback and
questions**

nationalgrid



Continuous stakeholder engagement

Our next steps are:



nationalgrid